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STRUCTURE FILE UPDATES: 1 APR 2010 HIGHEST RN 1215491-32-9
DICTIONARY FILE UPDATES: 1 APR 2010 HIGHEST RN 1215491-32-9

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=> d que 118
L4 STR



VAR G1=3/5/7/9/10
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 12

STEREO ATTRIBUTES: NONE
L7 4228 SEA FILE=REGISTRY SSS FUL L4
L14 STR

COOH 1

NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 1

STEREO ATTRIBUTES: NONE
L16 27 SEA FILE=REGISTRY SUB=L7 SSS FUL L14
L18 9 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L16

=> fil hcap
FILE 'HCAPLUS' ENTERED AT 13:19:25 ON 02 APR 2010
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FILE COVERS 1907 - 2 Apr 2010 VOL 152 ISS 15
FILE LAST UPDATED: 1 Apr 2010 (20100401/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Dec 2009
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Dec 2009

HCplus now includes complete International Patent Classification (IPC) reclassification data for the first quarter of 2010.

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<http://www.cas.org/legal/infopolicy.html>

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d l18 1-9 ibib ed abs hitstr hitind

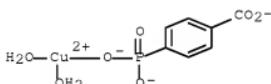
L18 ANSWER 1 OF 9 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2009:1339889 HCAPLUS Full-text
DOCUMENT NUMBER: 152:110212
TITLE: Synthesis and characterization of copper
4-carboxyphenylphosphonates
Zima, Vitezslav; Svoboda, Jan; Benes, Ludvik;
Melanova, Klara; Trchova, Miroslava; Ruzicka, Ales
CORPORATE SOURCE: Joint Laboratory of Solid State Chemistry of the
Institute of Macromolecular Chemistry AS CR,
v.v.i., University of Pardubice, Pardubice, 532
10, Czech Rep.
SOURCE: Journal of Solid State Chemistry (2009), 182(11),
3155-3161
CODEN: JSSCBI; ISSN: 0022-4596
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 02 Nov 2009

AB Three new Cu 4-carboxyphenylphosphonates Cu(HOOC₆H₄PO₃)·2H₂O, Cu(HOOC₆H₄PO₃) and Cu₃(OOC₆H₄PO₃)₂·3H₂O were prepared and characterized by TGA, x-ray diffraction anal., energy-dispersive X-ray microanal. and IR spectroscopy. The preparation conditions of Cu(HOOC₆H₄PO₃)·2H₂O and Cu₃(OOC₆H₄PO₃)₂·3H₂O differ in the acidity of the reaction mixture, where Cu(HOOC₆H₄PO₃) was prepared under hydrothermal conditions. Cu₃(OOC₆H₄PO₃)₂·3H₂O reacts with 4-carboxyphenylphosphonic acid to form Cu(HOOC₆H₄PO₃)·2H₂O.
Cu(HOOC₆H₄PO₃)·2H₂O is orthorhombic, space group Pb_{cn}, a 8.234(2), b 9.438(2), c 24.899(5) Å. Cu(HOOC₆H₄PO₃) crystallizes in the monoclinic space group P2₁/c, a 19.0951(3), b 8.0968(4), c 5.2111(11) Å, β 94.914(6)°, Z = 4. Its layered structure is composed of distorted Cu₆ octahedra arranged hexagonally in a gibbsite-like manner around two phosphonate groups, which have their carboxyphenyl groups extending into the space above and below the Cu-phosphonate layer. IR spectra indicate that for both Cu(HOOC₆H₄PO₃)·2H₂O and Cu(HOOC₆H₄PO₃) the acid H is present at the carboxyl group and not at the phosphonic group.

IT 1202493-42-2P
(preparation and crystal structure and thermal decomposition of copper carboxyphenylphosphonate polymeric complex)

RN 1202493-42-2 HCPLUS

CN INDEX NAME NOT YET ASSIGNED



CC 78-7 (Inorganic Chemicals and Reactions)
Section cross-reference(s): 75
IT 1196872-38-4P 1202493-42-2P
(preparation and crystal structure and thermal decomposition of copper carboxyphenylphosphonate polymeric complex)
REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 2 OF 9 HCPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2009:38101 HCPLUS [Full-text](#)
DOCUMENT NUMBER: 150:185549
TITLE: Medicinal kit for preparing 99Tc complex compounds, and its preparation and application
INVENTOR(S): Wang, Xuebin; Yang, Shuye; Zhang, Xianzhong; Tang, Zhigang; Zhang, Junbo; Lu, Jie
PATENT ASSIGNEE(S): Beijing Normal University, Peop. Rep. China
SOURCE: Faming Zuanli Shenqing Gongkai Shuomingshu, 12pp.
CODEN: CNXKEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 101337081	A	20090107	CN 2008-10118682 CN 2008-10118682	20080822 20080822
PRIORITY APPLN. INFO.:				

ED Entered STN: 12 Jan 2009

AB The medicine box is composed of medicine boxes A, B, and C. Medicine box A consists of Na₂CO₃, vitamin C, NaBH₄, K Na tartrate, lactose, and CO gas with weight ratio of 5-100:5-100:10-200:15-300:20-400:10-200. Medicine box B consists of DMSA and vitamin C with weight ratio of 5-100:5-100. Medicine box C consists of tartaric acid, MIBI, and vitamin C with weight ratio of 5-100:1-20:5-100. The preparation method comprises dissolving Na₂CO₃, vitamin C, NaBH₄, K Na tartrate, lactose in water for injection, filtering though 0.22 µm microporous filtering film, vacuum freeze-drying, sealing to obtain medicine box A; dissolving DMSA and vitamin C in water for injection, filtering though 0.22 µm microporous filtering film, vacuum freeze-drying, sealing to obtain medicine box B; dissolving tartaric acid, MIBI, and vitamin C in water for injection, filtering though 0.22 µm microporous filtering film, vacuum freeze-drying, sealing to obtain medicine box C. The method for preparing 99Tc complex, ^{99m}Tc(CO)3(DMSA) (MIBI), using medicine box comprises injection Na ^{99m}TcO₄ 22.2-370 mega-baker, reacting in boiling water for 30 min to obtain [^{99m}Tc(CO)3(H₂O)₃]⁺; injecting [^{99m}Tc(CO)3(H₂O)₃]⁺ into medicine box B, reacting for 10-15 min to obtain ^{99m}Tc(CO)3-DMSA; adding ^{99m}Tc(CO)3-DMSA into medicine box C, and reacting in boiling water. ^{99m}Tc(CO)3(DMSA) (MIBI) is used in developer of human and animal tissues or organ.

IT 1108200-02-7#

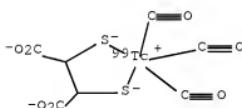
(medicinal kit for preparing 99Tc complex compds., and its preparation and application)

RN 1108200-02-7 HCAPLUS

CN Copper(1+), tetrakis[1-(isocyano-κC)-2-methoxy-2-methylpropane]-, (T-4)-, tricarbonyl[2,3-di(mercaptop-κS)butanedioato(4-)]technetate(3-)-99Tc tetrafluoroborate(1-) (1:1:1) (CA INDEX NAME)

CM 1

CRN 1108200-01-6
CMF C7 H2 O7 S2 Tc
CCI CCS



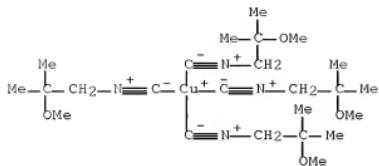
CM 2

CRN 103694-84-4
CMF C24 H44 Cu N4 O4 . B F4

CM 3

CRN 103694-83-3

CMF C24 H44 Cu N4 O4
 CCI CCS



CM 4

CRN 14874-70-5
 CMF B F4
 CCI CCS



CC 8-9 (Radiation Biochemistry)
 Section cross-reference(s): 63, 78
 IT 14133-76-7DP, complexes, biological studies 1108200-02-7P
 (medicinal kit for preparing 99Tc complex compds., and its preparation and application)

L18 ANSWER 3 OF 9 HCPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2005:564628 HCPLUS Full-text
 DOCUMENT NUMBER: 143:89661
 TITLE: Preparation of copper(I) formate complexes as precursors for copper metal deposition
 INVENTOR(S): Wittenbecher, Lars; Lang, Heinrich; Shen, Yingzhong
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany
 SOURCE: PCT Int. Appl., 15 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005058789	A2	20050630	WO 2004-EP14275	20041215
WO 2005058789	A3	20051208		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,

CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
 GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP,
 KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
 MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,
 SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
 VC, VN, YU, ZA, ZM, ZW, SM

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,
 AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,
 DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC,
 NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA,
 GN, GQ, GW, ML, MR, NE, SN, TD, TG

DE 10360046 A1 20050721 DE 2003-10360046 20031218

EP 1697296 A2 20060906 EP 2004-803895 20041215

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
 PT, IE, SI, LT, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS

CN 1894192 A 20070110 CN 2004-80037818 20041215

JP 2007514687 T 20070607 JP 2006-544327 20041215

US 20070197810 A1 20070823 US 2006-583103 20060616

PRIORITY APPLN. INFO.: DE 2003-10360046 A 20031218

WO 2004-EP14275 W 20041215

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): CASREACT 143:89661; MARPAT 143:89661

ED Entered STN: 30 Jun 2005

AB Cu (I) formate complexes $\text{LnCu}(\text{HCOO})_x\text{COOH}$ are decomposed to sep. metallic Cu ($x = 0-10$, $n = 2, 3$ or 4 ; $L =$ (independent of one another) a phosphine R₁R₂R₃P, a phosphite (R₁O)(R₂O)(R₃O)P; an isocyanide R₁NC; an alkene R₁R₂C = CR₃R₄; or an alkyne R₁C = CR₂; wherein R₁, R₂, R₃ and R₄ represent, independent of one another, H, a linear or branched, optionally partly or fully fluorinated alkyl, aminoalkyl, alkoxyalkyl, hydroxyalkyl, phosphinoalkyl or aryl radical having up to 20 C atoms, with the exception of triphenylphosphine-Cu(I) formate and 1,1,1-tris(diphenylphosphinomethyl)ethane-Cu(I) formate). For example, Cu(O₂CH) was prepared from CuCl and HCO₂H or form Cu(O₂CH)₂ and was reacted with L to give the resp. complexes. Cu(O₂CH)₂ reacted with HCO₂H in presence of Cu and P(OEt)₃ to give Cu(O₂CH)(P(OEt)₃)₂.xHCO₂H. Thermal decomposition of Cu(O₂CH)(P(OEt)₃)₂.xHCO₂H gave Cu.

IT 855516-69-7P 855516-89-1P 855516-91-5P

855516-93-7P 855516-95-9P 855516-97-1P

855516-99-3P 855517-02-1P 855517-04-3P

855517-06-5P 855517-08-7P

(preparation as precursor for copper metal deposition)

RN 855516-69-7 HCPLUS

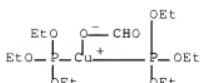
CN Copper, (formato- κ O)bis(triethyl phosphite- κ P)-, compd.
 with formic acid (9CI) (CA INDEX NAME)

CM 1

CRN 855516-68-6

CMF C13 H31 Cu O8 P2

CCI CCS

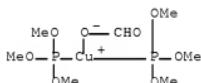


CM 2

CRN 64-18-6
CMF C H2 O2

RN 855516-89-1 HCPLUS
 CN Copper, (formato- κ O)bis(trimethyl phosphite- κ P)-, compd.
 with formic acid (9CI) (CA INDEX NAME)

CM 1

CRN 855516-88-0
CMF C7 H19 Cu O8 P2
CCI CCS

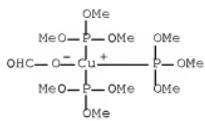
CM 2

CRN 64-18-6
CMF C H2 O2

RN 855516-91-5 HCPLUS
 CN Copper, (formato- κ O)tris(trimethyl phosphite- κ P)-, (T-4)-,
 compd. with formic acid (9CI) (CA INDEX NAME)

CM 1

CRN 855516-90-4
 CMF C10 H28 Cu O11 P3
 CCI CCS



CM 2

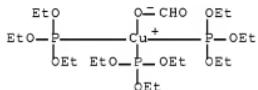
CRN 64-18-6
 CMF C H2 O2



RN 855516-93-7 HCPLUS
 CN Copper, (formato-κO)tris(triethyl phosphite-κP)-, (T-4)-,
 compd. with formic acid (9CI) (CA INDEX NAME)

CM 1

CRN 855516-92-6
 CMF C19 H46 Cu O11 P3
 CCI CCS



CM 2

CRN 64-18-6
 CMF C H2 O2



RN 855516-95-9 HCAPLUS

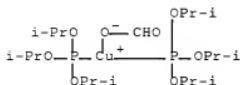
CN Copper, (formato- κ O)bis[tris(1-methylethyl)phosphite- κ P]-, compd. with formic acid (9CI) (CA INDEX NAME)

CM 1

CRN 855516-94-8

CMF C19 H43 Cu O8 P2

CCI CCS



CM 2

CRN 64-18-6

CMF C H2 O2



RN 855516-97-1 HCAPLUS

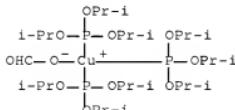
CN Copper, (formato- κ O)tris[tris(1-methylethyl)phosphite- κ P]-, (T-4)-, compd. with formic acid (9CI) (CA INDEX NAME)

CM 1

CRN 855516-96-0

CMF C28 H64 Cu O11 P3

CCI CCS



CM 2

CRN 64-18-6

CMF C H2 O2



RN 855516-99-3 HCPLUS

CN Copper, (formato- κ O)bis[tris(2,2,2-trifluoroethyl) phosphite- κ P]-, compd. with formic acid (9CI) (CA INDEX NAME)

CM 1

CRN 855516-98-2

CMF C13 H13 Cu F18 O8 P2
CCI CCS

CM 2

CRN 64-18-6

CMF C H2 O2

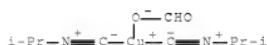


RN 855517-02-1 HCPLUS

CN Copper, (formato- κ O)bis[2-(isocyano- κ C)propane]-, compd. with formic acid (9CI) (CA INDEX NAME)

CM 1

CRN 855517-01-0

CMF C9 H15 Cu N2 O2
CCI CCS

CM 2

CRN 64-18-6
 CMF C H2 O2



RN 855517-04-3 HCPLUS
 CN Copper, (formato- κ O)bis[1-(isocyano- κ C)butane]-, compd.
 with formic acid (9CI) (CA INDEX NAME)

CM 1

CRN 855517-03-2
 CMF C11 H19 Cu N2 O2
 CCI CCS



CM 2

CRN 64-18-6
 CMF C H2 O2



RN 855517-06-5 HCPLUS
 CN Copper, (formato- κ O)bis[2-(isocyano- κ C)-2-methylpropane]-,
 compd. with formic acid (9CI) (CA INDEX NAME)

CM 1

CRN 855517-05-4
 CMF C11 H19 Cu N2 O2
 CCI CCS



CM 2

CRN 64-18-6

CMF C H2 O2



RN 855517-08-7 HCPLUS

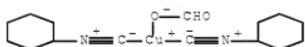
CN Copper, (formato- κ O)bis[(isocyano- κ C)cyclohexane]-, compd.
with formic acid (9CI) (CA INDEX NAME)

CM 1

CRN 855517-07-6

CMF C15 H23 Cu N2 O2

CCI CCS



CM 2

CRN 64-18-6

CMF C H2 O2



IC ICM C07C053-06

ICS C23C018-12

CC 78-7 (Inorganic Chemicals and Reactions)

IT 855516-69-7P 855516-71-1P 855516-73-3P 855516-75-5P

855516-77-7P 855516-79-9P 855516-81-3P 855516-83-5P

855516-85-7P 855516-87-9P 855516-89-1P

855516-91-5P 855516-93-7P 855516-95-9P

855516-97-1P 855516-99-3P 855517-00-9P

855517-02-1P 855517-04-3P 855517-06-5P

855517-08-7P

(preparation as precursor for copper metal deposition)

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMATL18 ANSWER 4 OF 9 HCPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 1996:601596 HCPLUS Full-text
DOCUMENT NUMBER: 125:247228

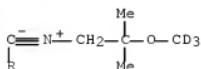
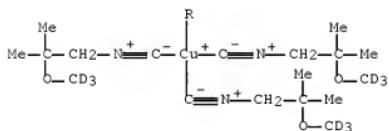
ORIGINAL REFERENCE NO.: 125:46209a,46212a
 TITLE: Preparation of 2-deuteroalkoxy-2-methylpropyl
 isonitrile complexes as scintigraphic agents
 INVENTOR(S): Knoesen, Otto
 PATENT ASSIGNEE(S): Atomic Energy Corp. of South Africa Ltd., S. Afr.
 SOURCE: S. Africam, 61 pp.
 CODEN: SFXXAB
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
ZA 9501503	A	19950922	ZA 1995-1503	19950223
PRIORITY APPLN. INFO.:			ZA 1993-8986	A 19931201

ED Entered STN: 10 Oct 1996
 AB Me₂C(OR)CH₂N.tplbond.C (R = trideuteriomethyl, pentadeuterioethyl) were prepared. Thus, CH₂:CMeCH₂NH₂ was N-formylated and the product treated with deuterated-MeOH/HgCl₂/HClO₄ to give, after dehydration, Me₂C(OCD₃)CH₂N.tplbond.C from which [Cu(C.tplbond.NCH₂CMe₂OCD₃)₄]BF₄ was prepared. The latter was used to prepare a ⁹⁹Tc complex administered to baboons. Data and images were given.
 IT 181528-95-0P 181529-00-0P
 (preparation of 2-deuteroalkoxy-2-methylpropyl isonitrile complexes as scintigraphic agents)
 RN 181528-95-0 HCPLUS
 CN Copper(1+), tetrakis[1-isocyano-2-(methoxy-d₃)-2-methylpropane]⁻, (T-4)⁻, salt with trifluoroacetic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 181528-92-7
 CMF C24 H32 Cu D12 N4 O4
 CCI CCS



CM 2

CRN 14477-72-6
 CMF C2 F3 O2



RN 181529-00-0 HCPLUS

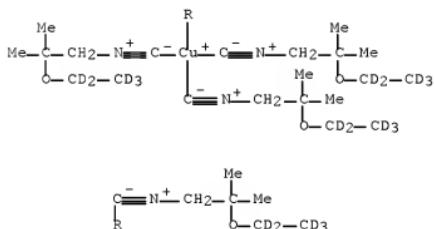
CN Copper(1+), tetrakis[2-(ethoxy-d5)-1-isocyano-2-methylpropane]-,
(T-4)-, salt with trifluoroacetic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 181528-97-2

CMF C28 H32 Cu D20 N4 O4

CCI CCS



CM 2

CRN 14477-72-6

CMF C2 F3 O2



IC ICM C07C

ICS C07F; A61K

CC 23-19 (Aliphatic Compounds)

Section cross-reference(s): 8

IT 25913-66-0P, N-Formylmethallylamine 134785-50-5P 134785-52-7P

181528-86-9P 181528-87-0P 181528-88-1P 181528-89-2P

181528-90-5P 181528-91-6P 181528-93-8P 181528-94-9P

181528-95-0P 181528-96-1P 181528-98-3P 181528-99-4P
 181529-00-0P 181529-01-1P

(preparation of 2-deuteroalkoxy-2-methylpropyl isonitrile complexes as scintigraphic agents)

L18 ANSWER 5 OF 9 HCPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1989:545157 HCPLUS Full-text
 DOCUMENT NUMBER: 111:145157
 ORIGINAL REFERENCE NO.: 111:24061a,24064a
 TITLE: Poly(ethynylacetylenes)
 INVENTOR(S): Ikeda, Yukihiro; Ozaki, Masaru
 PATENT ASSIGNEE(S): Agency of Industrial Sciences and Technology,
 Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01074205	A	19890320	JP 1987-228352	19870914
JP 04012886	B	19920306		
JP 1987-228352				19870914

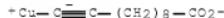
PRORITY APPLN. INFO.: ED Entered STN: 14 Oct 1989

AB The title polymers containing 10-1000 repeating units C(C.tplbond.CR):CH [R = (CH₂)_nCO₂.1/mM; n = 8-22; M = di-, tri, or tetravalent metal ion, proton; m = valence of metal ion], useful for elec. conductive polymers and pattern-forming resists, are prepared HC.tplbond.C(CH₂)₈CO₂H 2 g was esterified with MeOH, 1.9 g of the Me ester was treated successively with CuI and I₂ and then coupled with CuC.tplbond.CO₂H to give 0.66 g HO₂CC.tplbond.CC.tplbond.C(CH₂)₈CO₂Me, which was decarboxylated and hydrolyzed to give 0.14 g HC.tplbond.CC.tplbond.C(CH₂)₈CO₂H (I). A Langmuir-Blodgett membrane prepared from I was UV-irradiated to form a pattern with the irradiated portion insol. in EtOH.

IT 122681-60-1P 122681-61-2P
 (preparation and reaction of, with iodine)

RN 122681-60-1 HCPLUS

CN Cuprate(1-), (10-carboxylato-1-decynyl)-, hydrogen (9CI) (CA INDEX NAME)



RN 122681-61-2 HCPLUS

CN Cuprate(1-), (12-carboxylato-1-dodecynyl)-, hydrogen (9CI) (CA INDEX NAME)



● H +

IC ICM C08F038-00
 CC 76-2 (Electric Phenomena)
 Section cross-reference(s): 35, 38
 IT 122681-60-1P 122681-61-2P
 (preparation and reaction of, with iodine)

L18 ANSWER 6 OF 9 HCPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1989:523846 HCPLUS Full-text
 DOCUMENT NUMBER: 111:123846
 ORIGINAL REFERENCE NO.: 111:20595a,20598a
 TITLE: Pattern formation method with acetylenic derivatives
 INVENTOR(S): Ikeda, Yukihiro; Ozaki, Masaru
 PATENT ASSIGNEE(S): Agency of Industrial Sciences and Technology,
 Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01073339	A	19890317	JP 1987-228353	19870914
PRIORITY APPLN. INFO.:			JP 1987-228353	19870914

ED Entered STN: 01 Oct 1989
 AB Monomol. layers of HC.tplbond.CC.tplbond.C(CH₂)nCO₂H (n = 8-22) are spread on aqueous solns. of 2-4-valent metal ions, and thin film formed by transfer of these layers to substrate surface is patterned by active radiations. This method provides highly photosensitive layers. Thus, Me 10-undecynoate was treated with CuI and with I₂ to obtain 11-iodo-10-undecynoic acid, and of which solution in MeOH was slowly added to a mixture of propynic acid, CuCl and EtNH₂ to obtain HOCC.tplbond.C C.tplbond.C(CH₂)8CO₂Me, which was decarboxylated and hydrolyzed to yield 10,12-tridecadienoic acid (I). CHC13 solution of I was spread on the surface of 0.5 mM CdCl₂ solution, and the monomol. layer was transferred to surface of Si wafer. A layer obtained by accumulation of 69 monolayers was patternwise exposed to UV (100-W lamp, 10 cm distance, 5 min) and developed with EtOH to obtain a neg. pattern. Conductivity of this layer doped with I was 2+10⁻³ S/cm.
 IT 122370-95-0P
 (preparation and reaction of, with iodine, pattern-forming material from)
 RN 122370-95-0 HCPLUS
 CN Copper, (8-carboxy-1-decynyl)- (9CI) (CA INDEX NAME)



IC ICM G03C001-68
 ICS G03C001-74; G03F007-16
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 IT 122370-95-0P 122370-98-3P
 (preparation and reaction of, with iodine, pattern-forming material from)

L18 ANSWER 7 OF 9 HCPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1989;505818 HCPLUS Full-text
 DOCUMENT NUMBER: 111:105818
 ORIGINAL REFERENCE NO.: 111:17643a,17646a
 TITLE: Monosubstituted diacetylene compounds for electrically conductive polymers and resist materials
 INVENTOR(S): Ikeda, Yukihiro; Ozaki, Masaru
 PATENT ASSIGNEE(S): Agency of Industrial Sciences and Technology, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 01071837	A	19890316	JP 1987-228351	19870914
JP 02050094	B	19901101		

PRIORITY APPLN. INFO.: JP 1987-228351 19870914

ED Entered STN: 16 Sep 1989
 AB The HC.tplbond.CC.tplbond.C(CH₂)_nCO₂H (I; n = 8-18), useful as materials for conductive polymers and photoresists, are prepared. Thus, esterification of 11 mmol HC.tplbond.C(CH₂)₈CO₂H with MeOH in the presence of p-MeC₆H₄SO₃H gave a Me ester, which was treated with CuI in aqueous NH₃ and then with iodine to give 6.5 mmol IC.tplbond.C(CH₂)₈CO₂H (II). Then, coupling of 6.5 mmol II with 6.5 mmol HC.tplbond.CC₂O₂H in MeOH gave HO₂CC.tplbond.CC.tplbond.C(CH₂)₈CO₂Me, which was decarboxylated by refluxing in dioxane in the presence of Cu and then hydrolyzed in aqueous NaOH to give 0.68 mmol I (n = 8) (III). A Langmuir-Blodgett film prepared from III was mounted on a Si wafer, irradiated through a mask, and developed to form neg. patterns.
 IT 122370-95-0P
 (preparation and iodination of, photoresist material from)
 RN 122370-95-0 HCPLUS
 CN Copper, (8-carboxy-1-decynyl)- (9CI) (CA INDEX NAME)

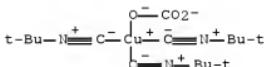


IC ICM C07C057-18
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 23, 76

IT 122370-95-0P

(preparation and iodination of, photoresist material from)

L18 ANSWER 8 OF 9 HCPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1980:156929 HCPLUS Full-text
 DOCUMENT NUMBER: 92:156929
 ORIGINAL REFERENCE NO.: 92:25315a,25318a
 TITLE: A copper(I)-bicarbonato complex. A water-stable reversible carbon dioxide carrier
 AUTHOR(S): Tsuda, Tetsuo; Chujo, Yoshiaki; Saegusa, Takeo
 CORPORATE SOURCE: Fac. Eng., Kyoto Univ., Kyoto, Japan
 SOURCE: Journal of the American Chemical Society (1980), 102(1), 431-3
 DOCUMENT TYPE: CODEN: JACSAT; ISSN: 0002-7863
 LANGUAGE: Journal English
 ED Entered STN: 12 May 1984
 AB A Cu(I) bicarbonato-complex was prepared by 3 routes: (i) hydrolysis of a Cu(I) alkylcarbonato-complex; (ii) hydrolytic carboxylation of a Cu(I) carbonato-complex; and (iii) carboxylation of a Cu(I) hydroxo-complex. The methods of (i) and (ii) are novel for the preparation of the transition metal bicarbonato-complex. The relation of interconversions among these Cu(I) complexes gives useful information about the chemical of transition metal bicarbonato-complexes. The Cu(I) bicarbonato-complex is soluble and reversibly decarboxylates both in organic solvents and in H₂O. The Cu(I) bicarbonato-complex acts as a H₂O-stable reversible CO₂ carrier to carboxylate cyclohexanone even in the presence of a nearly stoichiometric amount of H₂O.
 IT 73202-89-8P
 (preparation and carboxylation of cyclohexanone and propylene oxide by)
 RN 73202-89-8 HCPLUS
 CN Cuprate(1-), [carbonato(2-)O]tris(2-isocyano-2-methylpropane)-, hydrogen, (T-4)- (9CI) (CA INDEX NAME)



CC 78-7 (Inorganic Chemicals and Reactions)
 Section cross-reference(s): 7, 21

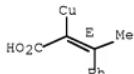
IT 73202-89-8P

(preparation and carboxylation of cyclohexanone and propylene oxide by)
 OS.CITING REF COUNT: 10 THERE ARE 10 CAPLUS RECORDS THAT CITE THIS
 RECORD (10 CITINGS)

L18 ANSWER 9 OF 9 HCPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1974:48128 HCPLUS Full-text
 DOCUMENT NUMBER: 80:48128
 ORIGINAL REFERENCE NO.: 80:7849a,7852a
 TITLE: Two different structures for copper and lithium derivatives of vinylic enolates. Effect of structure on the direction of electrophilic attack

AUTHOR(S): Klein, Joseph; Levene, Raphael
 CORPORATE SOURCE: Dep. Org. Chem., Heb. Univ. Jerusalem, Jerusalem,
 Israel
 SOURCE: Journal of the Chemical Society, Perkin
 Transactions 2: Physical Organic Chemistry
 (1972-1999) (1973), (14), 1971-8
 CODEN: JCPKBH; ISSN: 0300-9580
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 12 May 1984
 AB Cu vinylic enolates, e.g. PhCMe:C(Cu)CO₂Me, prepared from α,β -acetylenic acids and esters by treatment with R₂CuLi (R = Me, Ph), and from 2-bromo unsatd. esters by treatment with Me₂CuLi, have the Cu linked covalently to an sp² hybridized C atom α to the carbonyl group. Protonolysis or iodination proceeds with retention of configuration. The Li vinylic enolates, e.g. PhCMe:C(O₂)OMe, prepared by adding MeLi in Et₂O to THF solns. of the Cu derivs., have the α -C sp hybridized, and gave mixts. of isomers under the same conditions. The results are explained in terms of differing α -carbon hybridizations having differing effect on the path of electrophilic attack.
 IT 51474-58-9 51474-59-0
 (protonolysis and iodination of)
 RN 51474-58-9 HCAPLUS
 CN Copper, (1-carboxy-2-phenyl-1-propenyl)-, copper(1+) salt, (E)- (9CI)
 (CA INDEX NAME)

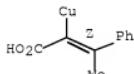
Double bond geometry as shown.



● Cu(I)

RN 51474-59-0 HCAPLUS
 CN Copper, (1-carboxy-2-phenyl-1-propenyl)-, copper(1+) salt, (Z)- (9CI)
 (CA INDEX NAME)

Double bond geometry as shown.



● Cu(I)

CC 29-9 (Organometallic and Organometalloidal Compounds)
 Section cross-reference(s): 22
 IT 51384-68-0 51384-69-1 51384-70-4 51384-71-5 51384-72-6

10/583,103

51474-56-7 51474-57-8 51474-58-9 51474-59-0
51474-60-3 51474-61-4 51474-62-5 51474-63-6 51474-64-7
51474-65-8

(protonolysis and iodination of)

OS.CITING REF COUNT: 17 THERE ARE 17 CAPLUS RECORDS THAT CITE THIS
RECORD (17 CITINGS)

=> d que 119
L4 STR



VAR G1=3/5/7/9/10
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 12

STEREO ATTRIBUTES: NONE
L6 10858 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON 64-18-6/CRN
L7 4228 SEA FILE=REGISTRY SSS FUL L4
L11 5829 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L7
L12 15157 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L6
L13 27 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L11 AND L12
L14 STR

COOH 1

NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 1

STEREO ATTRIBUTES: NONE
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L18 9 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L16
L19 26 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L13 NOT L18

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L19 ANSWER 1 OF 26 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2008:994680 HCAPLUS Full-text
DOCUMENT NUMBER: 149:307077
TITLE: Allene
AUTHOR(S): Crimmins, Michael T.; Pulido, Francisco J.;
Castreno, Pilar; Barbero, Asuncion
COPORATE SOURCE: USA
SOURCE: e-EROS Encyclopedia of Reagents for Organic
Synthesis (2001), No pp. given. John Wiley &
Sons, Ltd.: Chichester, UK.

CODEN: 69KUHI

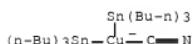
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[http://www3.interscience.wiley.com/cgi-bin/mrwhome
/104554785/HOME](http://www3.interscience.wiley.com/cgi-bin/mrwhome/104554785/HOME)

DOCUMENT TYPE: Conference; General Review; (online computer file)
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 149:307077
 ED Entered STN: 19 Aug 2008
 AB A review of the article Allene.
 IT 540-69-2 123347-37-5
 (Allene)
 RN 540-69-2 HCPLUS
 CN Formic acid, ammonium salt (1:1) (CA INDEX NAME)



RN 123347-37-5 HCPLUS
 CN Cuprate(2-), (cyano-KC)bis(tributylstannyl)-, lithium (1:2) (CA
 INDEX NAME)



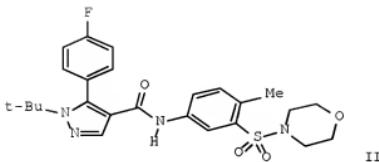
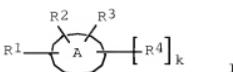
CC 21-0 (General Organic Chemistry)
 IT 64-18-6, Formic acid, reactions 67-56-1, Methanol, reactions
 74-88-4, reactions 75-07-0, Acetaldehyde, reactions 75-11-6
 75-21-8, Oxirane, reactions 75-36-5, Acetyl chloride 77-47-4
 78-94-4, 3-Buten-2-one, reactions 100-46-9, Benzenemethanamine,
 reactions 100-66-3, reactions 106-95-6, reactions 108-59-8
 109-70-6 119-61-9, reactions 124-38-9, Carbon dioxide, reactions
 143-66-8 533-58-4 540-69-2 542-92-7,
 1,3-Cyclopentadiene, reactions 591-50-4 598-25-4 610-97-9
 629-27-6 630-08-0, Carbon monoxide, reactions 768-03-6 892-20-6
 920-37-6 930-68-7, 2-Cyclohexen-1-one 993-63-5 1076-38-6
 1193-18-6 1489-28-7 2177-34-6 2327-99-3 2816-43-5 3437-95-4
 4282-40-0 5557-87-9, 3,4-Pentadien-1-ol 23431-36-9,
 4,5-Hexadien-2-ol 27667-34-1 32042-39-0 34837-55-3,
 Benzeneselenenyl bromide 40339-21-7 52629-63-7, 1,2-Tridecadiene
 59253-90-6, 1-Cyclopentene-1-carbonyl chloride 61613-20-5
 75405-41-3 80110-06-1 80953-80-6 120086-07-9
 123347-37-5 123994-49-0 124482-30-0 189078-68-0
 203577-52-0 203731-15-1 223239-83-6 229494-03-5,
 5,6-Heptadienenitrile 229494-04-6 260554-38-9 357979-51-2
 582305-28-0

(Allene)

L19 ANSWER 2 OF 26 HCPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2007:510466 HCPLUS Full-text
 DOCUMENT NUMBER: 146:501048
 TITLE: Preparation of heterocyclic amide compounds as FXR
 inhibitors
 INVENTOR(S): Miura, Shotaro; Shimada, Mitsuyuki; Marui, Shogo;
 Tamura, Norikazu; Nakada, Yoshihisa; Tozawa,
 Ryuichi; Sakamoto, Junichi; Funabashi, Yasunori;
 Hosono, Hiroshi
 PATENT ASSIGNEE(S): Takeda Pharmaceutical Company Limited, Japan
 SOURCE: PCT Int. Appl., 1320pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007052843	A1	20070510	WO 2006-JP322420	20061102
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
JP 2008094826	A	20080424	JP 2007-116246	20070425
PRIORITY APPLN. INFO.:			JP 2005-321600	A 20051104
			JP 2006-251883	A 20060915

OTHER SOURCE(S): MARPAT 146:501048
 ED Entered STN: 11 May 2007
 GI



AB Title compds. I [ring A = aromatic heterocycle; R1, R2 = (un)substituted alkyl, (un)substituted alkylthio, (un)substituted alkylsulfonyl, etc.; R3 = -CONH-(CR₆R₇)_n-Ar-(X)l-(Y)m-R; Ar = (un)substituted divalent cyclic group; X = (un)substituted alkylene, (un)substituted alkenylene; Y = -SO₂-, -SO-, -S-, etc.; R = H, (un)substituted cyclic group, (un)substituted amino, etc.; R₆, R₇ = H, alkyl; l, m, n = 0, 1; R3 is bonded to carbon in ring A.; R4 = H, (un)substituted alkyl, cyano, etc.; k = 0, 1], salts or prodrugs thereof were prepared. For example, treatment of 1-tert-butyl-5-(4-fluorophenyl)-1H-pyrazole-4-carboxylic acid, e.g., prepared from (p-fluorobenzoyl)acetic acid Et ester in 2 steps, with oxalyl chloride followed by reaction with 4-methyl-3-(morpholin-4-ylsulfonyl)aniline afforded compound II. In FXR (farnesoid X receptor) inhibition assays, the IC₅₀ value of compound II was 0.57 nM. Of note, compds. I are useful for the treatment of hyperlipidemia, atherosclerosis, etc.

IT 936118-58-0P 936118-60-4P 936118-82-0P
936118-84-2P 936118-86-4P

(preparation of heterocyclic amide compds. as FXR inhibitors)

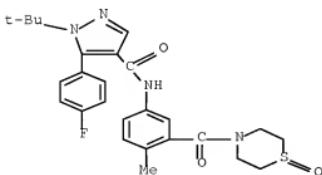
RN 936118-58-0 HCPLUS

CN Formic acid, compd. with 1-(1,1-dimethylethyl)-5-(4-fluorophenyl)-N-[4-methyl-3-[(1-oxido-4-thiomorpholinyl)carbonyl]phenyl]-1H-pyrazole-4-carboxamide (1:1) (CA INDEX NAME)

CM 1

CRN 936118-57-9

CMF C26 H29 F N4 O3 S



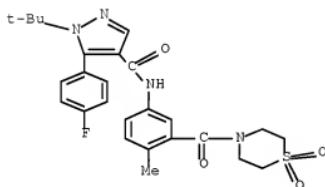
CM 2

CRN 64-18-6
CMF C H2 O2

RN 936118-60-4 HCPLUS

CN Formic acid, compd. with 1-(1,1-dimethylethyl)-N-[3-[(1,1-dioxido-4-thiomorpholinyl)carbonyl]-4-methylphenyl]-5-(4-fluorophenyl)-1H-pyrazole-4-carboxamide (1:1) (CA INDEX NAME)

CM 1

CRN 936118-59-1
CMF C26 H29 F N4 O4 S

CM 2

CRN 64-18-6
CMF C H2 O2

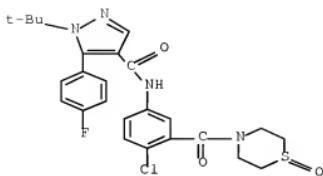
RN 936118-82-0 HCPLUS

CN Formic acid, compd. with N-[4-chloro-3-[(1-oxido-4-thiomorpholinyl)carbonyl]phenyl]-1-(1,1-dimethylethyl)-5-(4-fluorophenyl)-1H-pyrazole-4-carboxamide (1:1) (CA INDEX NAME)

CM 1

CRN 936118-81-9

CMF C25 H26 Cl F N4 O3 S



CM 2

CRN 64-18-6

CMF C H2 O2



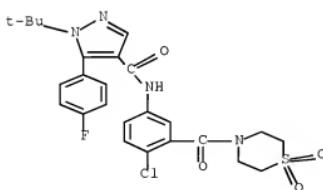
RN 936118-84-2 HCPLUS

CN Formic acid, compd. with N-[4-chloro-3-[(1,1-dioxido-4-thiomorpholinyl)carbonyl]phenyl]-1-(1,1-dimethylethyl)-5-(4-fluorophenyl)-1H-pyrazole-4-carboxamide (1:1) (CA INDEX NAME)

CM 1

CRN 936118-83-1

CMF C25 H26 Cl F N4 O4 S



CM 2

CRN 64-18-6

CMF C H2 O2

O=CH-OH

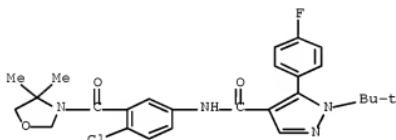
RN 936118-86-4 HCPLUS

CN Formic acid, compd. with N-[4-chloro-3-[(4,4-dimethyl-3-oxazolidinyl)carbonyl]phenyl]-1-(1,1-dimethylethyl)-5-(4-fluorophenyl)-1H-pyrazole-4-carboxamide (1:1) (CA INDEX NAME)

CM 1

CRN 936118-85-3

CMF C26 H28 Cl F N4 O3



CM 2

CRN 64-18-6

CMF C H2 O2

O=CH-OH

IT 544-92-3, Copper cyanide (Cu(CN))

(preparation of heterocyclic amide compds. as FXR inhibitors)

RN 544-92-3 HCPLUS

CN Copper cyanide (Cu(CN)) (CA INDEX NAME)

Cu-C≡N

CC 28-9 (Heterocyclic Compounds (More Than One Hetero Atom))

Section cross-reference(s): 1, 63

IT 936118-98-5P	936118-99-6P	936118-00-2P	936118-01-3P
936118-02-4P	936118-03-5P	936118-05-7P	936118-07-9P
936118-10-4P	936118-11-5P	936118-12-6P	936118-15-9P
936118-17-1P	936118-19-3P	936118-20-6P	936118-22-8P
936118-23-9P	936118-24-0P	936118-25-1P	936118-26-2P

936118-29-5P	936118-30-8P	936118-31-9P	936118-33-1P
936118-34-2P	936118-35-3P	936118-36-4P	936118-38-6P
936118-40-0P	936118-42-2P	936118-44-4P	936118-46-6P
936118-48-8P	936118-52-4P	936118-54-6P	936118-56-8P
936118-58-0P	936118-60-4P	936118-62-6P	
936118-64-8P	936118-66-0P	936118-68-2P	936118-70-6P
936118-72-8P	936118-76-2P	936118-78-4P	936118-80-8P
936118-82-0P	936118-84-2P	936118-86-4P	
936118-87-5P	936118-90-0P	936118-92-2P	936118-93-3P
936118-95-5P	936118-99-9P	936119-01-6P	936119-03-8P
936119-05-0P	936119-07-2P	936119-09-4P	936119-10-7P
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936119-25-4P	936119-26-5P	936119-27-6P	936119-28-7P
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936119-43-6P	936119-44-7P	936119-45-8P	936119-46-9P
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936119-66-3P	936119-67-4P	936119-68-5P	936119-69-6P
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 19099-93-5, 4-Oxo-1-piperidinecarboxylic acid benzyl ester
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 Malonic acid monobenzyl ester potassium salt 43032-38-8 50461-56-8
 50461-59-1 51135-96-7 51200-87-4 54950-20-8,
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 56741-34-5 57395-89-8, 4-Fluoropiperidine hydrochloride
 58885-60-2, *tert*-Butyl (3-oxopropyl) carbamate 59184-90-6
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 69555-14-2, Ethyl N-(diphenylmethyleneglycinate 73121-95-6
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 77169-12-1, 1,3-Diphenyl-1H-pyrazole-4-carboxylic acid 77643-63-1,
 1-Benzyl-2-phenyl-1H-pyrrole-3-carboxylic acid methyl ester
 (preparation of heterocyclic amide compds. as FXR inhibitors)

OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS
 RECORD (3 CITINGS)

REFERENCE COUNT: 83 THERE ARE 83 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

ACCESSION NUMBER: 2005:612302 HCPLUS Full-text
 DOCUMENT NUMBER: 143:133366
 TITLE: Indoles, 1H-indazoles, 1,2-benzisoxazoles, and
 1,2-benzisothiazoles, and preparation and uses
 thereof
 INVENTOR(S): Xie, Wenge; Herbert, Brian; Ma, Jianguo; Nguyen,
 Truc Minh; Schumacher, Richard A.; Gauss,
 Carla-Maria; Tehim, Ashok
 PATENT ASSIGNEE(S): Memory Pharmaceuticals Corporation, USA
 SOURCE: PCT Int. Appl., 108 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
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WO 2005063767	A2	20050714	WO 2004-US42852	20041222
WO 2005063767	A3	20050825		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, RU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
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AU 2004309367	A1	20050714	AU 2004-309367	20041222
CA 2550689	A1	20050714	CA 2004-2550689	20041222
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US 7396833	B2	20080708		
EP 1697378	A2	20060906	EP 2004-814981	20041222
EP 1697378	B1	20071121		
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CN 1918167	A	20070221	CN 2004-80041966	20041222
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ES 2295973	T3	20080416	ES 2004-814981	20041222
SG 149830	A1	20090227	SG 2009-253	20041222
NZ 548228	A	20090430	NZ 2004-548228	20041222
IN 2006DN03547	A	20070831	IN 2006-DN3547	20060620
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ZA 2006005122	A	20071227	ZA 2006-5122	20060621
MX 2006007168	A	20060907	MX 2006-7168	20060622
NO 2006003392	A	20060921	NO 2006-3392	20060721
US 20090088437	A1	20090402	US 2008-128839	20080529
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		US 2004-606897P	P	20040903
		US 2004-18429	A3	20041222

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 OTHER SOURCE(S): CASREACT 143:133366; MARPAT 143:133366

ED Entered STN: 15 Jul 2005

AB The present invention relates generally to the field of ligands for nicotinic acetylcholine receptors (nAChR), activation of nAChRs, and the treatment of disease conditions associated with defective or malfunctioning nicotinic acetylcholine receptors, especially of the brain. Further, this invention relates to novel compds. for example, indoles, 1H-indazoles, 1,2-benzisoxazoles, and 1,2-benzisothiazoles, which act as ligands for the $\alpha 7$ nAChR subtype, methods of preparing such compds., compns. containing such compds., and methods of use thereof.

IT 858659-97-9P, 3-[(5-Methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-indazole hydroformate 858659-99-1P,
 6-[(1,3-Thiazol-2-yl)]-3-[(5-Methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-indazole hydroformate 858660-01-2P
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yl)carbonyl]-1H-indazol-5-yl]urea hydroformate
 (drug candidate; indoles, 1H-indazoles, 1,2-benzisoxazoles, and
 1,2-benzisothiazoles preparation and use as α_7 nicotinic receptor
 ligands for treating various nervous system diseases)

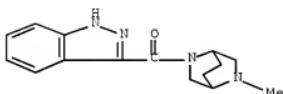
RN 858659-97-9 HCPLUS

CN Formic acid, compd. with 1H-indazol-3-yl(5-methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858659-96-8

CMF C15 H18 N4 O



CM 2

CRN 64-18-6

CMF C H2 O2



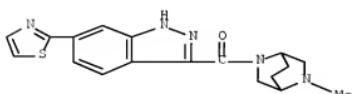
RN 858659-99-1 HCPLUS

CN Formic acid, compd. with (5-methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)[6-(2-thiazolyl)-1H-indazol-3-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858659-98-0

CMF C18 H19 N5 O S



CM 2

CRN 64-18-6

CMF C H2 O2

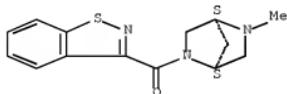
O=CH-OH

RN 858660-01-2 HCAPLUS
 CN Formic acid, compd. with 1,2-benzisothiazol-3-yl[(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-00-1
 CMF C14 H15 N3 O S

Absolute stereochemistry.



CM 2

CRN 64-18-6
 CMF C H2 O2

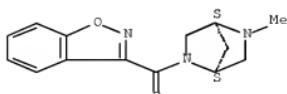
O=CH-OH

RN 858660-03-4 HCAPLUS
 CN Formic acid, compd. with 1,2-benzisoxazol-3-yl[(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-02-3
 CMF C14 H15 N3 O2

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2



RN 858660-05-6 HCPLUS

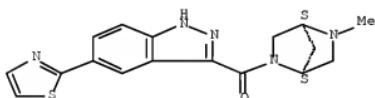
CN Formic acid, compd. with [(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl][5-(2-thiazolyl)-1H-indazol-3-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-04-5

CMF C17 H17 N5 O S

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2



RN 858660-07-8 HCPLUS

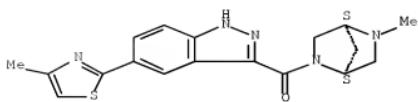
CN Formic acid, compd. with [(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl][5-(4-methyl-2-thiazolyl)-1H-indazol-3-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-06-7

CMF C18 H19 N5 O S

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2



RN 858660-13-6 HCPLUS

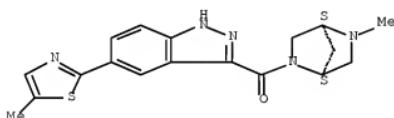
CN Formic acid, compd. with [(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl][5-(5-methyl-2-thiazolyl)-1H-indazol-3-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-12-5

CMF C18 H19 N5 O S

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2



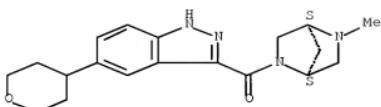
RN 858660-18-1 HCPLUS

CN Formic acid, compd. with [(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl][5-(tetrahydro-2H-pyran-4-yl)-1H-indazol-3-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-17-0
CMF C19 H24 N4 O2

Absolute stereochemistry.



CM 2

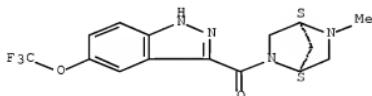
CRN 64-18-6
CMF C H2 O2

RN 858660-20-5 HCAPLUS
 CN Formic acid, compd. with [(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]{5-(trifluoromethoxy)-1H-indazol-3-yl}methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-19-2
CMF C15 H15 F3 N4 O2

Absolute stereochemistry.



CM 2

CRN 64-18-6
CMF C H2 O2

O—CH—OH

RN 858660-22-7 HCPLUS

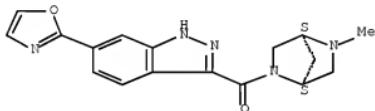
CN Formic acid, compd. with [(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl][6-(2-oxazolyl)-1H-indazol-3-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-21-6

CMF C17 H17 N5 O2

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2

O—CH—OH

RN 858660-24-9 HCPLUS

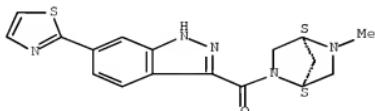
CN Formic acid, compd. with [(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl][6-(2-thiazolyl)-1H-indazol-3-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-23-8

CMF C17 H17 N5 O S

Absolute stereochemistry.



CM 2

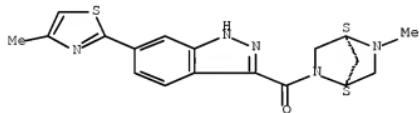
CRN 64-18-6
CMF C H2 O2

RN 858660-26-1 HCPLUS
 CN Formic acid, compd. with [(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl](6-(4-methyl-2-thiazolyl)-1H-indazol-3-yl)methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-25-0
CMF C18 H19 N5 O S

Absolute stereochemistry.



CM 2

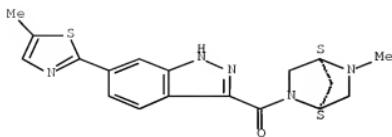
CRN 64-18-6
CMF C H2 O2

RN 858660-28-3 HCPLUS
 CN Formic acid, compd. with [(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl](6-(5-methyl-2-thiazolyl)-1H-indazol-3-yl)methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-27-2
CMF C18 H19 N5 O S

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2

CH₂-OH

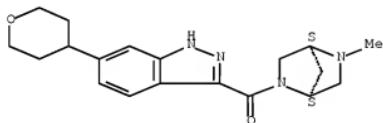
RN 858660-30-7 HCPLUS
 CN Formic acid, compd. with [(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl][6-(tetrahydro-2H-pyran-4-yl)-1H-indazol-3-yl]methanone (1:1)
 (CA INDEX NAME)

CM 1

CRN 858660-29-4

CMF C19 H24 N4 O2

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2

CH₂-OH

RN 858660-32-9 HCPLUS

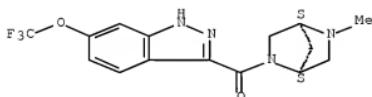
10/583,103

CN Formic acid, compd. with [(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl][6-(trifluoromethoxy)-1H-indazol-3-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-31-8
CMF C15 H15 F3 N4 O2

Absolute stereochemistry.



CM 2

CRN 64-18-6
CMF C H2 O2



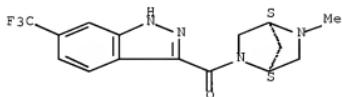
RN 858660-34-1 HCPLUS

CN Formic acid, compd. with [(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl][6-(trifluoromethyl)-1H-indazol-3-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-33-0
CMF C15 H15 F3 N4 O

Absolute stereochemistry.



CM 2

CRN 64-18-6
CMF C H2 O2

O=CH-OH

RN 858660-36-3 HCPLUS

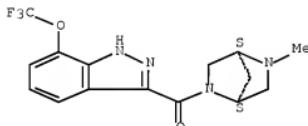
CN Formic acid, compd. with [(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl](7-(trifluoromethoxy)-1H-indazol-3-yl)methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-35-2

CMF C15 H15 F3 N4 O2

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2

O=CH-OH

RN 858660-38-5 HCPLUS

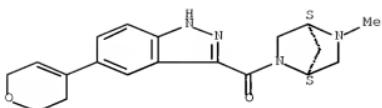
CN Formic acid, compd. with [5-(3,6-dihydro-2H-pyran-4-yl)-1H-indazol-3-yl][(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl)methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-37-4

CMF C19 H22 N4 O2

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2



RN 858660-40-9 HCPLUS

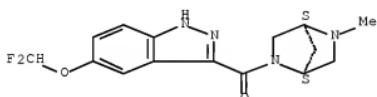
CN Formic acid, compd. with [5-(difluoromethoxy)-1H-indazol-3-yl][(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-39-6

CMF C15 H16 F2 N4 O2

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2

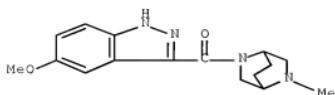


RN 858660-43-2 HCPLUS

CN Formic acid, compd. with (5-methoxy-1H-indazol-3-yl)(5-methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-42-1
 CMF C16 H20 N4 O2



CM 2

CRN 64-18-6
 CMF C H2 O2



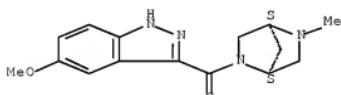
RN 858660-47-6 HCPLUS

CN Formic acid, compd. with (5-methoxy-1H-indazol-3-yl)[(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-46-5
 CMF C15 H18 N4 O2

Absolute stereochemistry.



CM 2

CRN 64-18-6
 CMF C H2 O2



RN 858660-49-8 HCPLUS

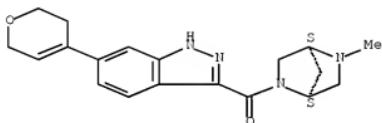
CN Formic acid, compd. with [6-(3,6-dihydro-2H-pyran-4-yl)-1H-indazol-3-yl][(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-48-7

CMF C19 H22 N4 O2

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2



RN 858660-51-2 HCPLUS

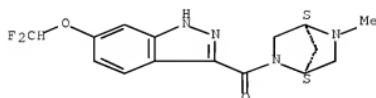
CN Formic acid, compd. with [6-(difluoromethoxy)-1H-indazol-3-yl][(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-50-1

CMF C15 H16 F2 N4 O2

Absolute stereochemistry.



CM 2

CRN 64-18-6
 CMF C H2 O2

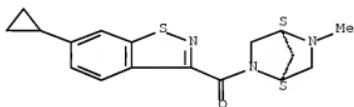


RN 858660-54-5 HCPLUS
 CN Formic acid, compd. with (6-cyclopropyl-1,2-benzisothiazol-3-yl) [(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-53-4
 CMF C17 H19 N3 O S

Absolute stereochemistry.



CM 2

CRN 64-18-6
 CMF C H2 O2

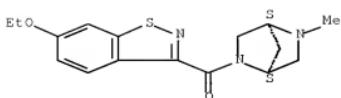


RN 858660-56-7 HCPLUS
 CN Formic acid, compd. with (6-ethoxy-1,2-benzisothiazol-3-yl) [(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-55-6
 CMF C16 H19 N3 O2 S

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2



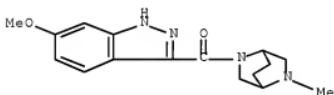
RN 858660-59-0 HCPLUS

CN Formic acid, compd. with (6-methoxy-1H-indazol-3-yl)(5-methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-58-9

CMF C16 H20 N4 O2



CM 2

CRN 64-18-6

CMF C H2 O2



RN 858660-61-4 HCPLUS

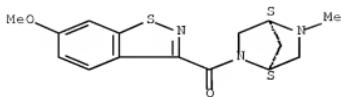
CN Formic acid, compd. with (6-methoxy-1,2-benzisothiazol-3-yl)[(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]methanone (1:1) (CA INDEX NAME)

CM 1

10/583,103

CRN 858660-60-3
CMF C15 H17 N3 O2 S

Absolute stereochemistry.



CM 2

CRN 64-18-6
CMF C H2 O2

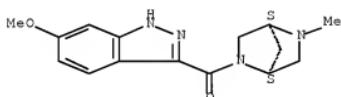


RN 858660-65-8 HCPLUS
CN Formic acid, compd. with (6-methoxy-1H-indazol-3-yl)[(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl)methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-64-7
CMF C15 H18 N4 O2

Absolute stereochemistry.



CM 2

CRN 64-18-6
CMF C H2 O2



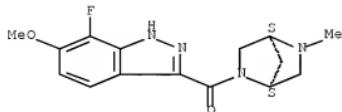
RN 858660-67-0 HCPLUS

CN Formic acid, compd. with (7-fluoro-6-methoxy-1H-indazol-3-yl) | (1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-66-9
CMF C15 H17 F N4 O2

Absolute stereochemistry.



CM 2

CRN 64-18-6
CMF C H2 O2



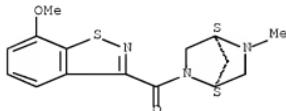
RN 858660-70-5 HCPLUS

CN Formic acid, compd. with (7-methoxy-1,2-benzisothiazol-3-yl) | (1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-69-2
CMF C15 H17 N3 O2 S

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2



RN 858660-72-7 HCPLUS

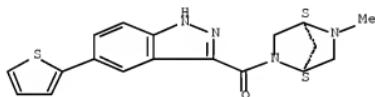
CN Formic acid, compd. with [(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl][5-(2-thienyl)-1H-indazol-3-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-71-6

CMF C18 H18 N4 O S

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2



RN 858660-74-9 HCPLUS

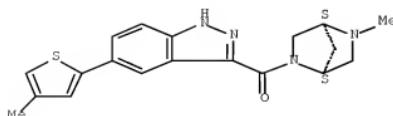
CN Formic acid, compd. with [(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl][5-(4-methyl-2-thienyl)-1H-indazol-3-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-73-8

CMF C19 H20 N4 O S

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2



RN 858660-76-1 HCPLUS

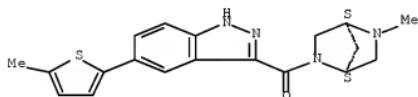
CN Formic acid, compd. with [(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl](5-(5-methyl-2-thienyl)-1H-indazol-3-yl)methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-75-0

CMF C19 H20 N4 O S

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2



RN 858660-78-3 HCPLUS

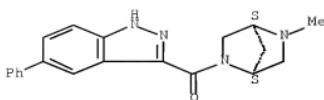
CN Formic acid, compd. with [(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl](5-phenyl-1H-indazol-3-yl)methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-77-2

CMF C20 H20 N4 O

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2



RN 858660-80-7 HCPLUS

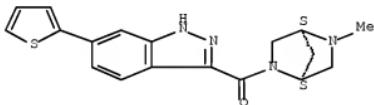
CN Formic acid, compd. with [(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl][6-(2-thienyl)-1H-indazol-3-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-79-4

CMF C18 H18 N4 O S

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2



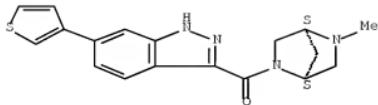
RN 858660-82-9 HCPLUS

CN Formic acid, compd. with [(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl][6-(3-thienyl)-1H-indazol-3-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-81-8
 CMF C18 H18 N4 O S

Absolute stereochemistry.



CM 2

CRN 64-18-6
 CMF C H2 O2

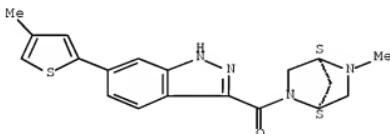


RN 858660-84-1 HCPLUS
 CN Formic acid, compd. with [(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl][6-(4-methyl-2-thienyl)-1H-indazol-3-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-83-0
 CMF C19 H20 N4 O S

Absolute stereochemistry.



CM 2

CRN 64-18-6
 CMF C H2 O2

O= CH — OH

RN 858660-86-3 HCPLUS

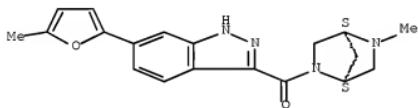
CN Formic acid, compd. with [(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl][6-(5-methyl-2-furanyl)-1H-indazol-3-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-85-2

CMF C19 H20 N4 O2

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2

O= CH — OH

RN 858660-88-5 HCPLUS

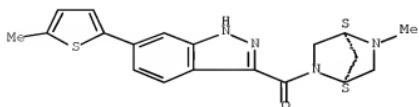
CN Formic acid, compd. with [(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl][6-(5-methyl-2-thienyl)-1H-indazol-3-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-87-4

CMF C19 H20 N4 O S

Absolute stereochemistry.



CM 2

CRN 64-18-6
CMF C H2 O2

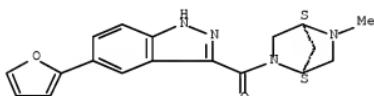
RN 858660-90-9 HCPLUS

CN Formic acid, compd. with [5-(2-furanyl)-1H-indazol-3-yl][(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-89-6
CMF C18 H18 N4 O2

Absolute stereochemistry.



CM 2

CRN 64-18-6
CMF C H2 O2

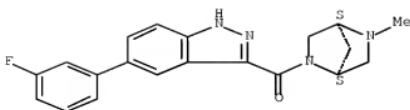
RN 858660-92-1 HCPLUS

CN Formic acid, compd. with [5-(3-fluorophenyl)-1H-indazol-3-yl][(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-91-0
CMF C20 H19 F N4 O

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2



RN 858660-95-4 HCPLUS

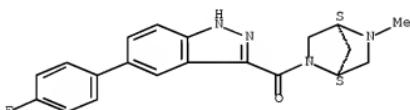
CN Formic acid, compd. with [5-(4-fluorophenyl)-1H-indazol-3-yl][(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-94-3

CMF C20 H19 F N4 O

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2



RN 858660-98-7 HCPLUS

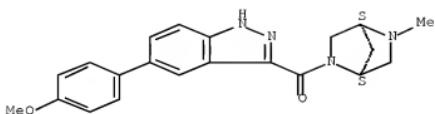
CN Formic acid, compd. with [5-(4-methoxyphenyl)-1H-indazol-3-yl][(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]methanone (1:1) (CA INDEX

NAME)

CM 1

CRN 858660-97-6
CMF C21 H22 N4 O2

Absolute stereochemistry.



CM 2

CRN 64-18-6
CMF C H2 O2

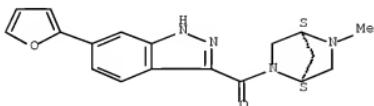
RN 858661-00-4 HCPLUS

CN Formic acid, compd. with [6-(2-furanyl)-1H-indazol-3-yl][(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858660-99-8
CMF C18 H18 N4 O2

Absolute stereochemistry.



CM 2

CRN 64-18-6
CMF C H2 O2

O \equiv CH—OH

RN 858661-02-6 HCPLUS

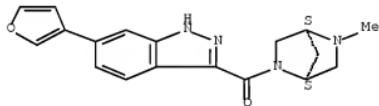
CN Formic acid, compd. with [6-(3-furanyl)-1H-indazol-3-yl][(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858661-01-5

CMF C18 H18 N4 O2

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2

O \equiv CH—OH

RN 858661-04-8 HCPLUS

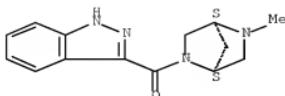
CN Formic acid, compd. with 1H-indazol-3-yl[(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858661-03-7

CMF C14 H16 N4 O

Absolute stereochemistry.

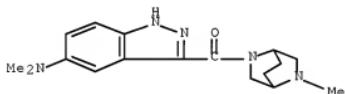


CM 2

CRN 64-18-6
CMF C H2 O2

RN 858661-09-3 HCPLUS
 CN Formic acid, compd. with [5-(dimethylamino)-1H-indazol-3-yl](5-methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858661-08-2
CMF C17 H23 N5 O

CM 2

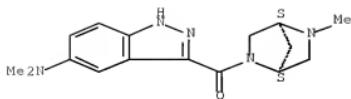
CRN 64-18-6
CMF C H2 O2

RN 858661-11-7 HCPLUS
 CN Formic acid, compd. with [5-(dimethylamino)-1H-indazol-3-yl][(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl)methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858661-10-6
CMF C16 H21 N5 O

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2



RN 858661-13-9 HCPLUS

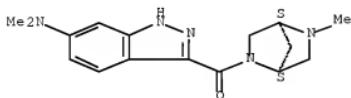
CN Formic acid, compd. with [6-(dimethylamino)-1H-indazol-3-yl]-[(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858661-12-8

CMF C16 H21 N5 O

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2



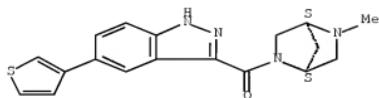
RN 858661-16-2 HCPLUS

CN Formic acid, compd. with [(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]-[5-(3-thienyl)-1H-indazol-3-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858661-15-1
 CMF C18 H18 N4 O S

Absolute stereochemistry.



CM 2

CRN 64-18-6
 CMF C H2 O2



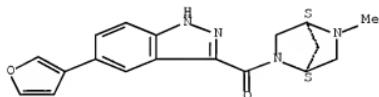
RN 858661-18-4 HCPLUS

CN Formic acid, compd. with [5-(3-furanyl)-1H-indazol-3-yl][(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]methane (1:1) (CA INDEX NAME)

CM 1

CRN 858661-17-3
 CMF C18 H18 N4 O2

Absolute stereochemistry.



CM 2

CRN 64-18-6
 CMF C H2 O2



RN 858661-21-9 HCPLUS

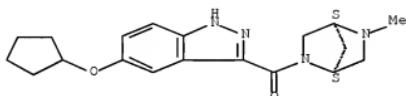
CN Formic acid, compd. with [5-(cyclopentyloxy)-1H-indazol-3-yl][(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858661-20-8

CMF C19 H24 N4 O2

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2



RN 858661-23-1 HCPLUS

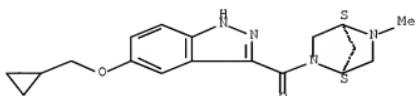
CN Formic acid, compd. with [5-(cyclopropylmethoxy)-1H-indazol-3-yl][(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858661-22-0

CMF C18 H22 N4 O2

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2



RN 858661-25-3 HCPLUS

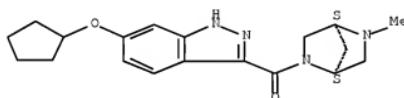
CN Formic acid, compd. with [6-(cyclopentyloxy)-1H-indazol-3-yl][(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]methanone (1:1) (CA INDEX NAME)

CM 1

CRN 858661-24-2

CMF C19 H24 N4 O2

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2



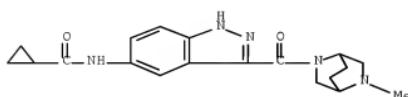
RN 858661-29-7 HCPLUS

CN Formic acid, compd. with N-[3-[(5-methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-indazol-5-yl]cyclopropanecarboxamide (1:1) (CA INDEX NAME)

CM 1

CRN 858661-28-6

CMF C19 H23 N5 O2



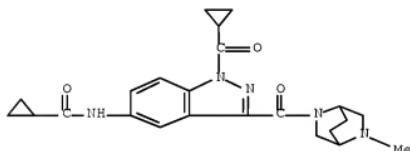
CM 2

CRN 64-18-6
CMF C H2 O2

RN 858661-31-1 HCPLUS

CN Formic acid, compd. with N-[1-(cyclopropylcarbonyl)-3-[(5-methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-indazol-5-yl]cyclopropanecarboxamide (1:1) (CA INDEX NAME)

CM 1

CRN 858661-30-0
CMF C23 H27 N5 O3

CM 2

CRN 64-18-6
CMF C H2 O2

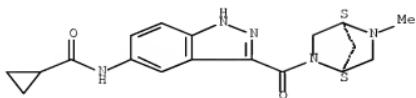
RN 858661-33-3 HCPLUS

CN Formic acid, compd. with N-[3-[(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]carbonyl]-1H-indazol-5-yl]cyclopropanecarboxamide (1:1) (CA INDEX NAME)

CM 1

CRN 858661-32-2
CMF C18 H21 N5 O2

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2



RN 858661-35-5 HCPLUS

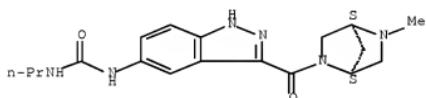
CN Formic acid, compd. with N-[3-[(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]carbonyl]-1H-indazol-5-yl]-N'-propylurea
(1:1) (CA INDEX NAME)

CM 1

CRN 858661-34-4

CMF C18 H24 N6 O2

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2



RN 858661-37-7 HCPLUS

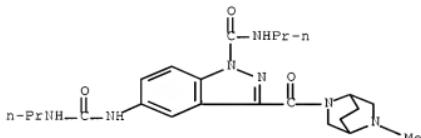
CN Formic acid, compd. with 3-[(5-methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-N-propyl-5-[(propylamino)carbonyl]amino-1H-indazole-1-

carboxamide (1:1) (CA INDEX NAME)

CM 1

CRN 858661-36-6

CMF C23 H33 N7 O3



CM 2

CRN 64-18-6

CMF C H2 O2



RN 858661-39-9 HCAPLUS

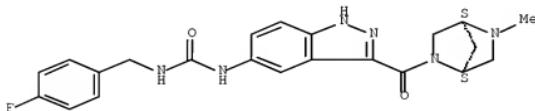
CN Formic acid, compd. with N-[(4-fluorophenyl)methyl]-N'-(3-[(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]carbonyl)-1H-indazol-5-yl]urea (1:1) (CA INDEX NAME)

CM 1

CRN 858661-38-8

CMF C22 H23 F N6 O2

Absolute stereochemistry.



CM 2

CRN 64-18-6

CMF C H2 O2

O \equiv CH—OH

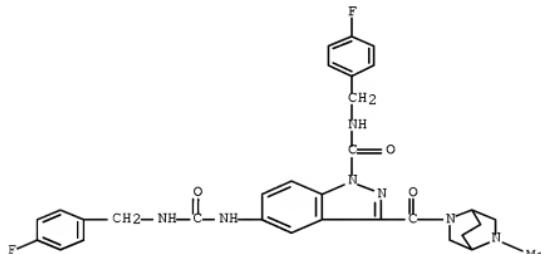
RN 858661-41-3 HCAPLUS

CN Formic acid, compd. with N-[(4-fluorophenyl)methyl]-5-[(4-fluorophenyl)methyl]amino]carbonyl]amino]-3-[(5-methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-indazole-1-carboxamide (1:1)
(CA INDEX NAME)

CM 1

CRN 858661-40-2

CMF C31 H31 F2 N7 O3



CM 2

CRN 64-18-6

CMF C H2 O2

O \equiv CH—OH

RN 858661-43-5 HCAPLUS

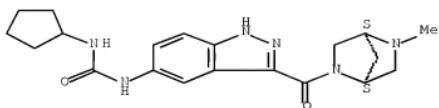
CN Formic acid, compd. with N-cyclopentyl-N'-(3-[(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]carbonyl)-1H-indazol-5-yl]urea (1:1) (CA INDEX NAME)

CM 1

CRN 858661-42-4

CMF C20 H26 N6 O2

Absolute stereochemistry.



CM 2

CRN 64-18-6
CMF C H₂ O₂

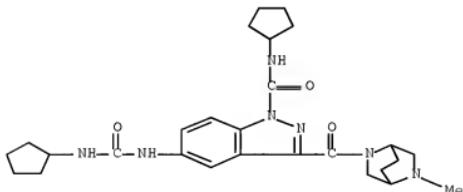


RN 858661-45-7 HCPLUS

CN Formic acid, compd. with N-cyclopentyl-5-[(cyclopentylamino)carbonyl]amino]-3-[(5-methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-indazole-1-carboxamide (1:1)
(CA INDEX NAME)

CM 1

CRN 858661-44-6
CMF C₂₇ H₃₇ N₇ O₃



CM 2

CRN 64-18-6
CMF C H₂ O₂



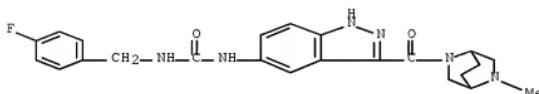
RN 858661-47-9 HCPLUS

CN Formic acid, compd. with N-[(4-fluorophenyl)methyl]-N'-(3-[(5-methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-indazol-5-yl)urea (1:1)
(CA INDEX NAME)

CM 1

CRN 858661-46-8

CMF C23 H25 F N6 O2



CM 2

CRN 64-18-6

CMF C H2 O2



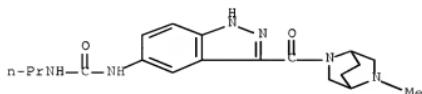
RN 858661-49-1 HCPLUS

CN Formic acid, compd. with N-[3-[(5-methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-indazol-5-yl]-N'-propylurea (1:1) (CA INDEX NAME)

CM 1

CRN 858661-48-0

CMF C19 H26 N6 O2



CM 2

CRN 64-18-6

CMF C H2 O2

O—CH—OH

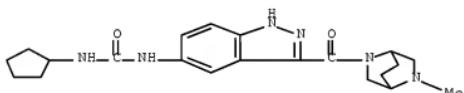
RN 858661-51-5 HCPLUS

CN Formic acid, compd. with N-cyclopentyl-N'-(3-[(5-methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-indazol-5-yl)urea (1:1) (CA INDEX NAME)

CM 1

CRN 858661-50-4

CMF C21 H28 N6 O2



CM 2

CRN 64-18-6

CMF C H2 O2

O—CH—OH

IT 544-92-3, Copper (I) cyanide

(indoles, 1H-indazoles, 1,2-benzisoxazoles, and
1,2-benzisothiazoles preparation and use as $\alpha 7$ nicotinic receptor
ligands for treating various nervous system diseases)

RN 544-92-3 HCPLUS

CN Copper cyanide (Cu(CN)) (CA INDEX NAME)

Cu—C≡N

IC ICM C07D487-18

ICS A61K031-4995; A61P025-00

CC 28-8 (Heterocyclic Compounds (More Than One Hetero Atom))

Section cross-reference(s): 1

IT 858659-93-5P 858659-94-6P, 3-[(2,5-Diazabicyclo[2.2.2]oct-2-yl)carbonyl]-6-(1,3-thiazol-2-yl)-1H-indazole hydrochloride
858659-95-7P, 3-[(2,5-Diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-

indazole hydrochloride 858659-96-8P,
 3-[(5-Methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-indazole
 858659-97-9P, 3-[(5-Methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-indazole hydroformate 858659-98-0P,
 3-[(5-Methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-6-(1,3-thiazol-2-yl)-1H-indazole 858659-99-1P,
 6-[(1,3-Thiazol-2-yl)]-3-[(5-Methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-indazole hydroformate 858660-00-1P
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 858660-07-8P 858660-12-5P 858660-13-6P
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 858660-41-0P 858660-43-2P,
 5-Methoxy-3-[(5-methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-indazole hydroformate 858660-44-3P,
 3-[(2,5-Diazabicyclo[2.2.2]oct-2-yl)carbonyl]-5-methoxy-1H-indazole hydrochloride 858660-45-4P 858660-46-5P 858660-47-6P
 858660-48-7P 858660-49-8P 858660-50-1P
 858660-51-2P 858660-52-3P 858660-53-4P
 858660-54-5P 858660-55-6P 858660-56-7P
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 858660-63-6P 858660-64-7P 858660-65-8P 858660-66-9P
 858660-67-0P 858660-69-2P 858660-70-5P
 858660-71-6P 858660-72-7P 858660-73-8P
 858660-74-9P 858660-75-0P 858660-76-1P
 858660-77-2P 858660-78-3P 858660-79-4P
 858660-80-7P 858660-81-8P 858660-82-9P
 858660-83-0P 858660-84-1P 858660-85-2P
 858660-86-3P 858660-87-4P 858660-88-5P
 858660-89-6P 858660-90-9P 858660-91-0P
 858660-92-1P 858660-94-3P 858660-95-4P
 858660-97-6P 858660-98-7P 858660-99-8P
 858661-00-4P 858661-01-5P 858661-02-6P
 858661-03-7P 858661-04-8P 858661-05-9P 858661-06-0P,
 N-(Cyclopropylmethyl)-3-[(5-methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-indazol-5-amine 858661-07-1P 858661-08-2P,
 3-[(5-Methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-5-(N,N-dimethylamine)-1H-indazole 858661-09-3P,
 3-[(5-Methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-5-(N,N-dimethylamine)-1H-indazole hydroformate 858661-10-6P
 858661-11-7P 858661-12-8P 858661-13-9P
 858661-14-0P 858661-15-1P 858661-16-2P 858661-17-3P
 858661-18-4P 858661-19-5P 858661-20-8P
 858661-21-9P 858661-22-0P 858661-23-1P
 858661-24-2P 858661-25-3P 858661-26-4P,
 5-Amino-3-[(5-Methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-indazole 858661-27-5P 858661-28-6P,
 N-[3-[(5-Methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-indazol-5-

yl]cyclopropanecarboxamide 858661-29-7P,
 N-[3-[(5-Methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-indazol-5-yl]cyclopropanecarboxamide hydroformate 858661-31-1P,
 N-[1-(Cyclopropylcarbonyl)-3-[(5-methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-indazol-5-yl]cyclopropanecarboxamide hydroformate
 858661-32-2P 858661-33-3P 858661-34-4P
 858661-35-5P 858661-37-7P,
 3-[(5-Methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-N-propyl-5-
 [(propylamino)carbonyl]amino]-1H-indazole-1-carboxamide hydroformate
 858661-38-8P 858661-39-9P 858661-41-3P,
 N-(4-Fluorobenzyl)-5-[[[(4-fluorobenzyl)amino]carbonyl]amino]-3-[(5-methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-indazole-1-carboxamide hydroformate 858661-42-4P 858661-43-5P
 858661-45-7P,
 N-Cyclopentyl-5-[(cyclopentylamino)carbonyl]amino]-3-[(5-methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-indazole-1-carboxamide
 hydroformate 858661-46-8P, N-(4-Fluorobenzyl)-N'-[3-[(5-methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-indazol-5-yl]urea
 858661-47-9P, N-(4-Fluorobenzyl)-N'-[3-[(5-methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-indazol-5-yl]urea
 hydroformate 858661-48-0P, N-[3-[(5-Methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-indazol-5-yl]-N'-(propyl)urea
 858661-49-1P, N'-Propyl-N-[3-[(5-Methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-indazol-5-yl]-urea
 hydroformate 858661-50-4P, N-Cyclopentyl-N'-[3-[(5-methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-indazol-5-yl]urea
 858661-51-5P, N-Cyclopentyl-N'-[3-[(5-methyl-2,5-diazabicyclo[2.2.2]oct-2-yl)carbonyl]-1H-indazol-5-yl]urea
 hydroformate 858661-52-6P, 3-[(2,5-Diazabicyclo[2.2.2]oct-2-yl)-6-(1,3-thiazol-2-yl)-1H-indazole 858661-53-7P
 858661-54-8P, 3-[(2,5-Diazabicyclo[2.2.2]oct-2-yl)carbonyl]-5-methoxy-1H-indazole
 858661-68-4P, 3-[(2,5-Diazabicyclo[2.2.2]oct-2-yl)carbonyl]-6-methoxy-1H-indazole
 (drug candidate; indoles, 1H-indazoles, 1,2-benzisoxazoles, and
 1,2-benzisothiazoles preparation and use as a⁷ nicotinic receptor
 ligands for treating various nervous system diseases)

IT 87-48-9 98-80-6 100-02-7, 4-Nitrophenol, reactions 100-52-7,
 Benzaldehyde, reactions 105-53-3, Diethyl malonate 106-53-6
 110-78-1 137-43-9 343-69-1 383-62-0, Ethyl chlorodifluoroacetate
 544-92-3, Copper (I) cyanide 594-19-4, tert-Butyllithium
 696-63-9 768-35-4 1081-04-5 1489-69-6,
 Cyclopropanecarboxaldehyde 1765-93-1 3460-18-2,
 1,4-Dibromo-2-nitrobenzene 4023-34-1, Cyclopropanecarbonyl chloride
 4498-67-3, 1H-Indazole-3-carboxylic acid 4498-68-4, Ethyl
 indazole-3-carboxylate 4747-71-1 5260-20-8 5470-65-5,
 3-Bromo-4-nitrophenol 5720-07-0 6165-68-0 6165-69-1 6320-01-0
 6326-79-0 7051-34-5 7217-59-6 13331-23-2 15570-12-4,
 3-Methoxybenzenethiol 23719-80-4, Cyclopropylmagnesium bromide
 29943-42-8, Tetrahydropyran-4-one 39755-95-8 40991-34-2,
 1,2-Benzisothiazole-3-carboxylic acid 52321-18-3 55552-70-0
 62306-79-0 70315-70-7, 3-Iodo-6-nitroindazole 78155-76-7
 86704-82-7 127420-27-3 132740-43-3 140681-55-6,
 1-Chloromethyl-4-fluoro-1,4-diazoniabicyclo[2.2.2]octane
 bis(tetrafluoroborate) 162607-15-0 162607-20-7 169037-23-4
 197010-37-0, 2-Amino-5-amino-hexanedioic acid diethyl ester
 dihydrochloride 518990-36-8 533885-93-7 533885-94-8
 858671-74-6 858671-77-9, Ethyl 6-methoxy-1H-indazole-3-carboxylate
 869782-71-8 869782-74-1 869782-97-8 885272-94-6 885277-92-9

1023993-30-7 1023999-89-4
 (indoles, 1H-indazoles, 1,2-benzisoxazoles, and
 1,2-benzisothiazoles preparation and use as α_7 nicotinic receptor
 ligands for treating various nervous system diseases)

OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS
 RECORD (5 CITINGS)
 REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L19 ANSWER 4 OF 26 HCPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2004:205966 HCPLUS Full-text
 DOCUMENT NUMBER: 142:197901
 TITLE: Product class 13: quinazolines
 AUTHOR(S): Kikelj, D.
 CORPORATE SOURCE: Germany
 SOURCE: Science of Synthesis (2004), 16, 573-749
 CODEN: SSCYJ9
 PUBLISHER: Georg Thieme Verlag
 DOCUMENT TYPE: Journal; General Review
 LANGUAGE: English
 ED Entered STN: 15 Mar 2004
 AB A review. Preparation of quinazolines by ring closure and ring transformation
 reactions as well as aromatization and substituent modification is given.
 IT 540-69-2
 (preparation of quinazolines)
 RN 540-69-2 HCPLUS
 CN Formic acid, ammonium salt (1:1) (CA INDEX NAME)



IT 544-92-3, Copper cyanide (Cu(CN))
 (preparation of quinazolines)
 RN 544-92-3 HCPLUS
 CN Copper cyanide (Cu(CN)) (CA INDEX NAME)



CC 28-0 (Heterocyclic Compounds (More Than One Hetero Atom))
 IT 67-72-1 77-48-5 84-58-2 93-59-4, Benzenecarboperoxoic acid
 94-36-0, uses 98-09-9, Benzenesulfonyl chloride 102-69-2
 109-95-5 110-86-1, Pyridine, uses 118-75-2, uses 128-08-5
 143-33-9, Sodium cyanide (Na(CN)) 144-55-8, Carbonic acid monosodium
 salt, uses 333-20-0 429-41-4 459-73-4 501-65-5
 540-69-2 546-67-8 590-28-3 598-41-4 603-35-0, uses
 657-84-1 762-21-0 865-33-8 865-47-4 872-50-4, uses 999-97-3
 1020-84-4 1066-33-7, Ammonium bicarbonate 1112-67-0 1122-58-3
 1309-48-4, Magnesium oxide (MgO), uses 1313-13-9, Manganese oxide

(MnO₂), uses 1313-82-2, Sodium sulfide (Na₂S), uses 1333-82-0, Chromium oxide (Cr₂O₃) 1455-13-6, Methanol-d 1499-10-1 1576-35-8 1762-95-4 2052-49-5, Tetrabutylammonium hydroxide 2311-91-3 3481-12-7, Sodium naphthalenide, uses 4039-32-1 5470-11-1 6674-22-2 7181-87-5 7439-89-6, Iron, uses 7440-23-5, Sodium, uses 7440-66-6, Zinc, uses 7446-09-5, Sulfur dioxide, uses 7450-69-3 7550-45-0, Titanium chloride (TiCl₄) (T-4)-, uses 7601-90-3, Perchloric acid, uses 7631-86-9, Silica, uses 7631-90-5 7646-78-8, uses 7646-85-7, Zinc chloride (ZnCl₂), uses 7647-14-5, Sodium chloride (NaCl), uses 7681-82-5, Sodium iodide (NaI), uses 7697-37-2, Nitric acid, uses 7705-07-9, Titanium chloride (TiCl₃), uses 7705-08-0, Iron chloride (FeCl₃), uses 7719-09-7, Thionyl chloride 7719-12-2, Phosphorous trichloride 7723-14-0, Phosphorus, uses 7727-54-0 7757-79-1, Nitric acid potassium salt, uses 7758-02-3, Potassium bromide (KBr), uses 7761-88-8, Nitric acid silver(+1) salt, uses 7772-99-8, Tin chloride (SnCl₂), uses 7782-44-7, Oxygen, uses 7782-49-2, Selenium, uses 7782-50-5, Chlorine, uses 7782-92-5, Sodium amide (Na(NH₂)) 7783-93-9 7789-20-0, Water-d2 7789-60-8, Phosphorous tribromide 7790-94-5, Chlorosulfuric acid 7803-49-8, Hydroxylamine, uses 10026-13-8 10028-15-6, Ozone, uses 10034-85-2, Hydriodic acid 10035-10-6, Hydrobromic acid, uses 10294-33-4 10544-50-0, uses 12027-06-4, Ammonium iodide 13746-66-2 13826-86-3 13840-56-7, Sodium borate 14014-06-3, Sodium hydroxide (Na(OD)) 14217-21-1, Trisodium hexacyanoferrate 15525-45-8 15857-57-5 16721-80-5, Sodium sulfide (Na(SH)) 17242-52-3, Potassium amide (K(NH₂)) 20667-12-3, Silver oxide (Ag₂O) 21908-53-2, Mercury oxide (HgO) 26386-88-9 26628-22-8, Sodium azide (Na(N₃)) 29154-12-9 337913-25-4 573672-35-2, Sodium peroxide (Na₂O₂)
(preparation of quinazolines)

IT 50-00-0, Formaldehyde, reactions 55-21-0, Benzamide 59-48-3 60-34-4 60-35-5, Acetamide, reactions 62-53-3, Benzenamine, reactions 62-55-5, Ethanethioamide 62-56-6, Thiourea, reactions 64-17-5, Ethanol, reactions 64-18-6, Formic acid, reactions 64-19-7, Acetic acid, reactions 64-67-5 65-45-2 66-99-9, 2-Naphthaleneacarboxaldehyde 67-56-1, Methanol, reactions 67-64-1, 2-Propanone, reactions 67-66-3, reactions 70-11-1 71-23-8, 1-Propanol, reactions 71-36-3, 1-Butanol, reactions 74-88-4, reactions 74-89-5, Methanamine, reactions 74-90-8, Hydrocyanic acid, reactions 74-96-4 75-03-6 75-05-8, Acetonitrile, reactions 75-07-0, Acetaldehyde, reactions 75-15-0, Carbon disulfide, reactions 75-24-1 75-36-5, Acetyl chloride 75-44-5, Carbonic dichloride 75-52-5, reactions 75-77-4, reactions 75-87-6 75-98-9 77-78-1 78-39-7 78-83-1, reactions 78-93-3, 2-Butanone, reactions 79-04-9 79-05-0, Propanamide 79-22-1 80-48-8 80-62-6 84-26-4 87-25-2 88-68-6 89-77-0 91-56-5, 1H-Indole-2,3-dione 93-97-0 95-92-1 96-32-2 97-39-2 98-74-8 98-83-9, reactions 98-86-2, reactions 98-88-4, Benzoyl chloride 98-92-0, 3-Pyridinecarboxamide 100-10-7 100-36-7 100-39-0 100-44-7, reactions 100-46-9, Benzenemethanamine, reactions 100-47-0, Benzonitrile, reactions 100-48-1, 4-Pyridinecarbonitrile 100-52-7, Benzaldehyde, reactions 100-54-9, 3-Pyridinecarbonitrile 100-58-3 100-61-8, reactions 101-99-5 102-06-7 102-85-2 103-71-9, reactions 103-72-0 103-76-4, 1-Piperazineethanol 103-81-1, Benzeneacetamide 103-84-4 104-85-8 104-88-1, reactions 104-94-9 105-36-2 105-39-5 105-53-3 105-56-6 106-49-0, reactions 106-95-6, reactions 107-10-8, Propylamine, reactions 107-12-0, Propanenitrile 107-14-2 107-19-7, 2-Propyn-1-ol 107-59-5 107-92-6, Butanoic acid, reactions 108-24-7 109-51-3, Pentanimidamide 109-65-9 109-72-8, reactions 109-73-9,

1-Butanamine, reactions 109-75-1, 3-Butenenitrile 110-91-8,
 Morpholine, reactions 113-00-8, Guanidine 115-08-2,
 Methanethioamide 115-80-0 116-15-4 118-48-9,
 2H-3,1-Benzoxazine-2,4(1H)-dione 118-74-1 118-92-3 120-14-9
 120-92-3, Cyclopentanone 120-94-5 121-44-8, reactions 121-45-9
 122-51-0 122-52-1 123-11-5, reactions 123-75-1, Pyrrolidine,
 reactions 124-38-9, Carbon dioxide, reactions 124-40-3, reactions
 124-41-4 124-63-0, Methanesulfonyl chloride 126-98-7 134-20-3
 135-02-4 139-02-6 140-29-4, Benzenecetonitrile 140-89-6
 141-43-5, reactions 141-52-6 141-97-9 143-37-3, Ethanimidamide
 147-47-7 271-44-3, 1H-Indazole 290-87-9, 1,3,5-Triazine 334-88-3
 353-42-4 357-83-5 369-57-3 394-47-8 407-25-0 420-04-2,
 Cyanamide 445-27-2 459-44-9 461-58-5 463-52-5, Methanimidamide
 463-58-1, Carbon oxide sulfide (COS) 479-33-4 496-15-1 504-74-5,
 Imidazolidine 506-68-3, Cyanogen bromide ((CN)Br) 506-77-4,
 Cyanogen chloride ((CN)Cl) 507-09-5, Ethanethioic acid, reactions
 513-35-9 525-76-8 529-23-7 533-68-6 535-11-5 536-90-3
 541-41-3 542-69-8 544-92-3, Copper cyanide (Cu(CN))
 551-93-9 555-16-8, reactions 556-56-9 556-64-9 563-47-3
 563-83-7 574-17-4 587-65-5 591-51-5 598-21-0 604-75-1
 606-18-8 607-69-2 609-15-4 609-65-4 609-85-8 610-68-4
 612-24-8 614-76-6 616-38-6 617-90-3, 2-Furancarbonitrile
 618-39-3, Benzenecarboximidamide 619-72-7 621-06-7 621-30-7
 622-16-2 623-49-4 626-36-8 626-67-5 627-26-9 628-17-1
 628-73-9, Hexanenitrile 630-08-0, Carbon monoxide, reactions
 636-04-4 645-54-5, Benzenethianethioamide 670-54-2,
 Ethenetetracarbonitrile, reactions 693-02-7, 1-Hexyne 693-03-8
 705-62-4 719-59-5 747-48-8 762-42-5 766-05-2,
 Cyclohexanecarbonitrile 771-99-3 784-45-2 811-51-8 828-51-3
 873-74-5 888-71-1 917-64-6 922-64-5 922-67-8 925-90-6
 926-64-7 933-52-8 951-48-4 954-91-6 996-82-7 1000-84-6
 1121-60-4, 2-Pyridinecarboxaldehyde 1122-85-6 1125-43-5
 1187-46-8 1189-71-5, Sulfuryl chloride isocyanate 1192-95-6
 1199-00-4 1206-17-3 1206-55-9 1424-52-8 1441-87-8 1467-79-4
 1527-91-9 1530-88-7, 1-Pyrrolidinecarbonitrile 1530-89-8,
 4-Morpholinecarbonitrile 1589-82-8 1614-92-2 1640-52-4
 1640-59-1 1663-61-2 1770-88-3 1806-65-1
 (preparation of quinazolines)

OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS
 RECORD (4 CITINGS)
 REFERENCE COUNT: 1014 THERE ARE 1014 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE IN
 THE RE FORMAT

L19 ANSWER 5 OF 26 HCPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2003:672784 HCPLUS [Full-text](#)
 DOCUMENT NUMBER: 140:322258
 TITLE: Cone calorimetric study of copper additive smoke
 suppression in poly(vinyl chloride)
 AUTHOR(S): Pike, Robert D.; Starnes, William H., Jr.; Doyal,
 Alexander S.; Murray, Philip J.; Zhang, Jing
 CORPORATE SOURCE: Department of Chemistry, College of William and
 Mary, Williamsburg, VA, 23187-8795, USA
 SOURCE: Proceedings of the Conference on Recent Advances
 in Flame Retardancy of Polymeric Materials (2002),
 13, 353-359
 CODEN: PCRABT
 PUBLISHER: Business Communications Co., Inc.
 DOCUMENT TYPE: Journal
 LANGUAGE: English

ED Entered STN: 28 Aug 2003

AB Various copper(I)- and copper(II)-containing compds. have been evaluated as potential smoke-suppressant additives in rigid and plasticized poly(vinyl chloride) (PVC). Copper-containing PVC samples have been burned in a cone calorimeter and the data evaluated for parameters including time to ignition, smoke released, heat release rate, mass loss rate, and effective heat of combustion. The results show a marked decrease in both flame and smoke from the polymer when copper-rich additives are present. In addition, synergism studies of copper/molybdenum additive mixts. have been carried out with rigid PVC.

IT 624-88-4, Copper formate 124634-90-8

(Cone calorimetric study of copper-containing additive smoke suppression in rigid and plasticized PVC)

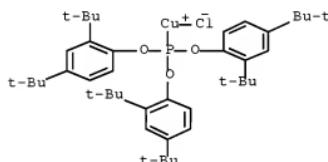
RN 624-88-4 HCPLUS

CN Formic acid, copper(1+) salt (8CI, 9CI) (CA INDEX NAME)



RN 124634-90-8 HCPLUS

CN Copper, chloro[tris[2,4-bis(1,1-dimethylethyl)phenyl]phosphite-κP]- (9CI) (CA INDEX NAME)



CC 37-6 (Plastics Manufacture and Processing)

IT 624-88-4, Copper formate 814-91-5, Copper oxalate (CuC₂O₄)1317-39-1, Copper oxide (Cu₂O), uses 7758-89-6, Copper chloride

11129-27-4, Copper bromide 12207-64-6, Ammonium molybdate

((NH₄)₄Mo₈O₂₆) 124634-90-8 414910-84-2 414910-86-4

414910-87-5

(Cone calorimetric study of copper-containing additive smoke suppression in rigid and plasticized PVC)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 6 OF 26 HCPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2003:665567 HCPLUS Full-text

DOCUMENT NUMBER: 139:365660

TITLE: Cone calorimetric study of copper-promoted smoke

suppression and fire retardance of poly(vinyl chloride)

AUTHOR(S): Starnes, William H.; Pike, Robert D.; Cole, Jenine R.; Doyal, Alexander S.; Kimlin, Edward J.; Lee, Jeffrey T.; Murray, Philip J.; Quinlan, Ronald A.; Zhang, Jing

CORPORATE SOURCE: Departments of Chemistry and Applied Science, College of William and Mary, Williamsburg, VA, 23187-8795, USA

SOURCE: Polymer Degradation and Stability (2003), 82(1), 15-24

PUBLISHER: CODEN: PDSTDW; ISSN: 0141-3910
Elsevier Science B.V.

DOCUMENT TYPE: Journal
LANGUAGE: English

ED Entered STN: 26 Aug 2003

AB Copper-based smoke suppression additives for poly(vinyl chloride) (PVC) were tested for crosslinking capability in pyrolysis studies and for smoke suppression and fire retardance by the use of cone calorimetry. Crosslinking of PVC at 190° was promoted by most of the additives without an obvious dependence on additive copper content or copper oxidation state. The copper additives (at 10 parts by weight per hundred parts of resin) proved to inhibit both smoke and heat evolution in burning PVC samples (both rigid and plasticized) in cone calorimetric studies. Mixed-metal oxides of copper were especially effective in this regard. Synergism in smoke suppression was noted for combinations of Cu₃(MoO₄)₂(OH)₂ and Cu₂SnO₃ in plasticized PVC. A 2:1 (weight/weight) mixture of Cu₃(MoO₄)₂(OH)₂ and Cu₂SnO₃ yielded a reduction in specific extinction area (a measure of smoke obscuration) of 64% and a reduction in total smoke release of 79% vs. the control sample.

IT 544-19-4, Copper(II) formate
(preparation and smoke suppression and fire retardancy of copper compds.
used for PVC)

RN 544-19-4 HCAPLUS

CN Formic acid, copper(2+) salt (2:1) (CA INDEX NAME)



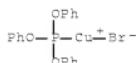
●1/2 Cu(II)

IT 14318-89-9P 24484-07-9P 124634-90-8P
414910-82-0P

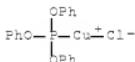
(preparation and smoke suppression and fire retardancy of copper compds.
used for PVC)

RN 14318-89-9 HCAPLUS

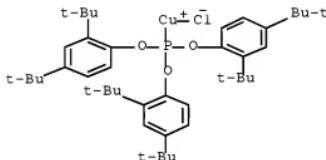
CN Copper, bromo(triphenyl phosphite-κP)- (9CI) (CA INDEX NAME)



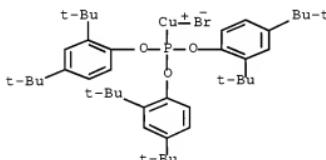
RN 24484-07-9 HCAPLUS
 CN Copper, chloro(triphenyl phosphite- κ P)- (9CI) (CA INDEX NAME)



RN 124634-90-8 HCAPLUS
 CN Copper, chloro[tris(2,4-bis(1,1-dimethylethyl)phenyl)phosphite- κ P]- (9CI) (CA INDEX NAME)



RN 414910-82-0 HCAPLUS
 CN Copper, bromo[tris(2,4-bis(1,1-dimethylethyl)phenyl)phosphite- κ P]- (9CI) (CA INDEX NAME)



CC 37-5 (Plastics Manufacture and Processing)
 Section cross-reference(s): 78
 IT 544-19-4, Copper(II) formate 814-91-5, Copper(II) oxalate
 1192-40-1 1309-64-4, Antimony(3+) oxide, uses 1317-39-1, Copper
 oxide (Cu_2O), uses 4903-02-0 12069-69-1 12207-64-6, Ammonium
 molybdate ($(\text{NH}_4)_4\text{Mo}_2\text{O}_9$) 12536-65-1, Boron zinc oxide (B4Zn3O9)
 14039-26-0 21467-97-0 102840-69-7 622411-11-4 622411-13-6
 (preparation and smoke suppression and fire retardancy of copper compds.
 used for PVC)

IT 12018-91-6P, Copper tin hydroxide CuSn(OH)6 12019-07-7P, Copper tin oxide CuSnO3 14318-89-9P 15122-99-3P
 24484-07-9P 27739-50-0P, Copper molybdenum hydroxide oxide (Cu₃Mo₂(OH)208) 34335-09-6P 34461-68-2P 56698-24-9P
 75479-23-1P 124634-90-8P 414910-82-0P
 414910-83-1P 414910-84-2P 414910-85-3P 414910-86-4P
 414910-87-5P 414910-88-6P 622411-16-9P
 (preparation and smoke suppression and fire retardancy of copper compds. used for PVC)

OS.CITING REF COUNT: 26 THERE ARE 26 CAPLUS RECORDS THAT CITE THIS RECORD (26 CITINGS)

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 7 OF 26 HCPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2003:56019 HCPLUS Full-text

DOCUMENT NUMBER: 138:106430

TITLE: Procedure and catalysts for the production of monopropargyl amines from diaminomethanes and acetylenes

INVENTOR(S): Henkelmann, Jochem; Thil, Lucien; Arndt, Jan-Dirk; Knochel, Paul; Koradin, Christopher

PATENT ASSIGNEE(S): BASF AG, Germany
 SOURCE: Ger. Offen., 8 pp.

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10134160	A1	20030123	DE 2001-10134160	20010713
PRIORITY APPLN. INFO.:			DE 2001-10134160	20010713

OTHER SOURCE(S): CASREACT 138:106430; MARPAT 138:106430

ED Entered STN: 24 Jan 2003

AB Monopropargyl amines R1C.tplbond.CCH(R4)N(R3)R2 [R1 = H, linear or (un)branched cyclic or acyclic C1-10 alkyl or C2-10 alkenyl, halogen, (un)substituted Ph, etc.; R2, R3 = H, (un)branched (un)substituted cyclic acyclic alkyl or alkenyl, etc.; R4 = H, or (un)branched cyclic or acyclic residue; e.g., 3-(diethylamino)-1-propyne] are prepared in high yield and selectivity by the reaction of an (un)substituted acetylene R1C.tplbond.CH (e.g., acetylene) with a diaminomethane R3(R2)NC(R4)HN(R3)R2 (e.g., bis(diethylamino)methane) in the presence of a copper salt catalyst (e.g., cupric bromide) which is soluble in the reaction medium (e.g., n-decane), and the reaction is conducted in the absence of water or aldehydes.

IT 544-19-4, Cupric formate 544-92-3, Cuprous cyanide 624-88-4, Cuprous formate 4367-08-2,
 Cupric cyanide 54865-38-2

(catalyst for the production of monopropargyl amines from diaminomethanes and acetylenes)

RN 544-19-4 HCPLUS

CN Formic acid, copper(2+) salt (2:1) (CA INDEX NAME)



●1/2 Cu(II)

RN 544-92-3 HCAPLUS
 CN Copper cyanide (Cu(CN)) (CA INDEX NAME)



RN 624-88-4 HCAPLUS
 CN Formic acid, copper(1+) salt (8CI, 9CI) (CA INDEX NAME)

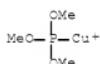


● Cu(I)

RN 4367-08-2 HCAPLUS
 CN Copper cyanide (Cu(CN)₂) (9CI) (CA INDEX NAME)



RN 54865-38-2 HCAPLUS
 CN Copper(1+), (trimethyl phosphite-κP)- (9CI) (CA INDEX NAME)



IC ICM C07B043-04
 ICS C07C209-60
 CC 23-4 (Aliphatic Compounds)
 Section cross-reference(s): 21, 45, 67
 IT 75-18-3, Dimethylsulfide 544-19-4, Cupric formate
 544-92-3, Cuprous cyanide 624-88-4, Cuprous
 formate 3251-23-8, Cupric nitrate 3251-29-4, Cuprous nitrate
 4367-08-2, Cupric cyanide 7447-39-4, Cupric chloride, uses
 7681-65-4, Cuprous iodide 7758-89-6, Cuprous chloride 7758-98-7,

Cupric sulfate, uses 7787-70-4, Cuprous bromide 7789-45-9, Cupric bromide 13767-71-0, Cupric iodide 13770-18-8, Cupric perchlorate 14708-11-3, Cuprous tetrafluoroborate 15061-57-1, Cuprous perchlorate 16712-25-7, Cupric trifluoroacetate 17599-81-4, Cuprous sulfate 25535-55-1, Cuprous trifluoroacetate 26490-65-3, Cuprous hexafluorophosphate 38465-60-0, Cupric tetrafluoroborate 54865-38-2 64443-05-6
 (catalyst for the production of monopropargyl amines from diaminomethanes and acetylenes)

L19 ANSWER 8 OF 26 HCPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 19991600601 HCPLUS Full-text

DOCUMENT NUMBER: 132:208647

TITLE: Low-valent metals as reductive crosslinking agents: a new strategy for smoke suppression of poly(vinyl chloride)

AUTHOR(S): Pike, R. D.; Starnes, W. H., Jr.; Jeng, J. P.; Bryant, W. S.; Kourtesis, P.; Adams, C. W.; Bunge, S. D.; Kang, Y. M.; Kim, A. S.; Kim, J. H.; Macko, J. A.; O'Brien, C. P.

CORPORATE SOURCE: Departments of Chemistry and Applied Science, College of William and Mary, Williamsburg, VA, 23187-8795, USA

SOURCE: Chemistry and Technology of Polymer Additives (1999), 195-217. Editor(s): Al-Malaika, Sahar; Golovoy, Amos; Wilkie, Charles A. Blackwell: Oxford, UK.

CODEN: 68DWA9

DOCUMENT TYPE: Conference
 LANGUAGE: English

ED Entered STN: 23 Sep 1999

AB Several types of additives that contain transition metals can promote the crosslinking of poly(vinyl chloride) (PVC) by a mechanism that apparently involves reductive coupling of the polymer chains. In solid PVC, the crosslinking occurs at 200°C, and model-compound expts. show that it can be ascribed to the preferential reductive coupling of allylic chloride structures when the coupling agent is Cu(0). However, the concurrent coupling of other chloride moieties has not been entirely ruled out. The evidence for reductive coupling consists of rapid gel formation accompanied by substantial redns. (or minor changes) in the rates of total mass loss (as determined by TGA measurements), CC formation (as observed by FTIR spectroscopy), and HCl evolution (as determined by acid-base titrimetry). Additives that promote the coupling process are sources of a zero- or low-valent metal upon pyrolysis. These additives include a number of transition-metal carbonyls, divalent formates or oxalates of the late transition metals, simple Cu(I) halides, and various complexes of Cu(I) containing phosphites or other ligands. Since the reductive coupling agents tend to have low acidities, they are not expected to promote the cationic cracking of char. Thus they are potentially attractive as replacements for the PVC smoke suppressants that stimulate crosslinking by acting as Lewis acids.

IT 544-19-4, Copper diformate

(low-valence metals as reductive crosslinking agents and a new strategy for smoke suppression of poly(vinyl chloride))

RN 544-19-4 HCPLUS

CN Formic acid, copper (2+) salt (2:1) (CA INDEX NAME)

C=CH-OH

●1/2 Cu(II)

IT 3047-59-4, Iron diformate 3349-06-2, Nickel
diformate 107060-84-4 259730-06-8
(low-valence metals as reductive crosslinking agents and a new
strategy for smoke suppression of poly(vinyl chloride))
RN 3047-59-4 HCPLUS
CN Formic acid, iron(2+) salt (8CI, 9CI) (CA INDEX NAME)

C=CH-OH

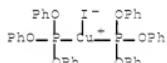
●1/2 Fe(II)

RN 3349-06-2 HCPLUS
CN Formic acid, nickel(2+) salt (2:1) (CA INDEX NAME)

C=CH-OH

●1/2 Ni(II)

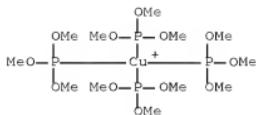
RN 107060-84-4 HCPLUS
CN Copper, iodobis(triphenyl phosphite-κP)- (9CI) (CA INDEX NAME)



RN 259730-06-8 HCPLUS
CN Copper(1+), tetrakis(trimethyl phosphite-κP)-, (T-4)-,
tetrafluoroborate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 45298-82-6
CMF C12 H36 Cu O12 P4
CCI CCS



CM 2

CRN 14874-70-5

CMF B F4
CCI CCS

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 23

IT 544-19-4, Copper diformate 10170-69-1, Dimanganese decacarbonyl 10210-68-1, Dicobalt octacarbonyl 13939-06-5, Molybdenum hexacarbonyl (low-valence metals as reductive crosslinking agents and a new strategy for smoke suppression of poly(vinyl chloride))

IT 516-03-0, Iron oxalate 547-67-1, Nickel oxalate 3047-59-4, Iron diformate 3349-06-2, Nickel diformate 7447-39-4, Copper dichloride, uses 7646-85-7, Zinc chloride, uses 7681-65-4, Copper moniodide 7705-08-0, Iron trichloride, uses 7718-54-9, Nickel dichloride, uses 7758-89-6, Copper chloride 7758-94-3, Iron dichloride 7772-99-8, Tin dichloride, uses 7787-70-4, Copper monobromide 7789-45-9, Copper dibromide 14040-11-0, Tungsten hexacarbonyl 15321-51-4, Iron enneacarbonyl 50409-58-0 64443-05-6 107060-84-4 134761-87-8, Cobalt oxalate 137002-85-8 220769-89-1 220769-90-4 259730-05-7 259730-06-8 259730-07-9 259730-08-0 259730-09-1 259730-10-4 259730-11-5 259730-12-6 (low-valence metals as reductive crosslinking agents and a new strategy for smoke suppression of poly(vinyl chloride))

REFERENCE COUNT: 60 THERE ARE 60 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 9 OF 26 HCPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1999:577773 HCPLUS Full-text

DOCUMENT NUMBER: 132:195344

TITLE: Smoke suppression of PVC by reductive crosslinking
Starnes, W. H., Jr.; Pike, R. D.; Adams, C. W;AUTHOR(S): Bunge, S. D.; Kang, Y. M.; Kim, A. S.; Kim, J. H.
Dep. of Chemistry and Dep. of Applied Science,

CORPORATE SOURCE:

College of William and Mary, Williamsburg, VA,
23187-8795, USA

SOURCE: Additives '98: Strategies and Innovations for
Value-Added Polymers, International Conference &
Exhibit, 7th, Orlando, Fla., Feb. 16-18, 1998
(1998), 3/1-3/8. Executive Conference Management:
Plymouth, Mich.

DOCUMENT TYPE: CODEN: 68BRAI

CONFERENCE: Conference
LANGUAGE: English

ED Entered STN: 15 Sep 1999

AB Upon heating, several classes of additives containing transition metals have been shown to cause the reductive crosslinking of poly(vinyl chloride) (PVC). When these additives are used, Lewis-acid-promoted crosslinking does not intervene, and the actual crosslinking species are zero- or low-valent metals that usually are formed in situ. Unlike Lewis acids, the reductive crosslinking agents are not expected to promote the cracking of char into flammable fragments. Thus these agents are potential smoke suppressants and fire retardants for com. PVC products.

IT 544-19-4 3349-06-2 22829-46-5

107060-84-4 259730-06-8
(effect of addition of; smoke suppression of PVC by reductive crosslinking)

RN 544-19-4 HCPLUS

CN Formic acid, copper(2+) salt (2:1) (CA INDEX NAME)



●1/2 Cu(II)

RN 3349-06-2 HCPLUS

CN Formic acid, nickel(2+) salt (2:1) (CA INDEX NAME)



●1/2 Ni(II)

RN 22829-46-5 HCPLUS

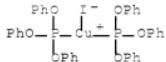
CN Formic acid, iron(2+) salt, hydrate (8CI, 9CI) (CA INDEX NAME)



●1/2 Fe(II)



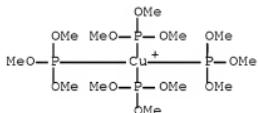
RN 107060-84-4 HCPLUS
 CN Copper, iodobis(triphenyl phosphite- κ P)- (9CI) (CA INDEX NAME)



RN 259730-06-8 HCPLUS
 CN Copper(1+), tetrakis(trimethyl phosphite- κ P)-, (T-4)-, tetrafluoroborate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 45298-82-6
 CMF C12 H36 Cu O12 P4
 CCI CCS



CM 2

CRN 14874-70-5
 CMF B F4
 CCI CCS



CC 38-2 (Plastics Fabrication and Uses)
 Section cross-reference(s): 37
 IT 516-03-0, Iron oxalate 544-19-4 1335-23-5, Copper iodide
 3349-06-2 7440-50-8, Copper, uses 7758-89-6, Copper
 chloride 10210-68-1 11129-27-4, Copper bromide 13939-06-5
 14040-11-0, Tungsten carbonyl 22829-46-5 23087-58-3
 23838-02-0 24290-40-2 29604-34-0 64443-05-6

107060-84-4	126956-48-7	134761-87-8, Cobalt oxalate
220769-89-1	220769-90-4	259730-05-7 259730-06-8
259730-07-9	259730-08-0	259730-09-1 259730-10-4 259730-11-5
259730-12-6		

(effect of addition of; smoke suppression of PVC by reductive crosslinking)

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 10 OF 26 HCPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1997:658584 HCPLUS Full-text

DOCUMENT NUMBER: 127:294060

ORIGINAL REFERENCE NO.: 127:57487a,57490a

TITLE:

Low-Valent Metals as Reductive Crosslinking

Agents: A New Strategy for Smoke Suppression of Poly(vinyl chloride)

AUTHOR(S):

Pike, Robert D.; Starnes, William H., Jr.; Jeng, J. Paul; Bryant, William S.; Kourtesis, Peter; Adams, Christopher W.; Bunge, Scott D.; Kang, Yun M.; Kim, Andrew S.; Kim, J. Hana; Macko, Jason A.; O'Brien, Charles P.

CORPORATE SOURCE:

Departments of Chemistry and Applied Science, College of William and Mary, Williamsburg, VA, 23187-8795, USA

SOURCE:

Macromolecules (1997), 30(22), 6957-6965

CODEN: MAMOBX; ISSN: 0024-9297

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal

LANGUAGE:

English

ED Entered STN: 17 Oct 1997

AB Several types of additives that contain transition metals can promote the crosslinking of PVC by a mechanism that apparently involves reductive coupling of the polymer chains. In solid PVC, crosslinking occurs at 200°, and model-compound expts. show that it can be ascribed to the preferential reductive coupling of allylic chloride structures when the coupling agent is Cu(0). However, the concurrent coupling of other chloride moieties has not been entirely ruled out. The evidence for reductive coupling consists of rapid gel formation accompanied by substantial redns. (or minor changes) in the rates of total mass loss (as determined by thermogravimetric anal. measurements), C:C formation (as observed by Fourier transform IR spectroscopy), and HCl evolution (as determined by acid-base titrimetry). Additives that promote the coupling process are sources of a zero- or low-valent metal upon pyrolysis. These additives include a number of transition-metal carbonyls, divalent formates or oxalates of the late transition metals, simple Cu(I) halides, and various complexes of Cu(I) containing phosphites or other ligands. Since the reductive coupling agents tend to have low acidities, they are not expected to promote the cationic cracking of char. Thus they are potentially attractive as replacements for the PVC smoke suppressants that stimulate crosslinking by acting as Lewis acids.

IT 544-19-4, Copper(II) formate 3047-59-4, Iron

diformate 3349-06-2, Nickel(II) formate

80480-88-2 197097-70-4 197097-77-1

197097-79-3 197097-81-7 197097-83-9

197097-84-0 197097-86-2 197097-87-3

197097-88-4 197097-89-5

(low-valent metals as reductive crosslinking agents for smoke suppression of poly(vinyl chloride))

RN 544-19-4 HCPLUS

CN Formic acid, copper(2+) salt (2:1) (CA INDEX NAME)

C≡CH—OH

●1/2 Cu(II)

RN 3047-59-4 HCAPLUS
 CN Formic acid, iron(2+) salt (8CI, 9CI) (CA INDEX NAME)

C≡CH—OH

●1/2 Fe(II)

RN 3349-06-2 HCAPLUS
 CN Formic acid, nickel(2+) salt (2:1) (CA INDEX NAME)

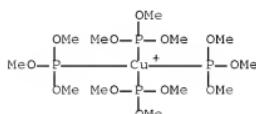
C≡CH—OH

●1/2 Ni(II)

RN 80480-88-2 HCAPLUS
 CN Copper(1+), tetrakis(trimethyl phosphite-κP)-, (T-4)-,
 hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

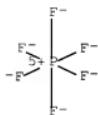
CM 1

CRN 45298-82-6
 CMF C12 H36 Cu O12 P4
 CCI CCS



CM 2

CRN 16919-18-9
 CMF F6 P
 CCI CCS



RN 197097-70-4 HCPLUS
 CN Copper(1+), tetrakis[(isocyano- κ C)benzene]-, (T-4)-,
 hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

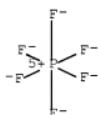
CM 1

CRN 56238-20-1
 CMF C28 H20 Cu N4
 CCI CCS

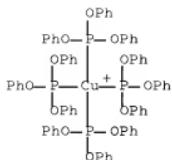


CM 2

CRN 16919-18-9
 CMF F6 P
 CCI CCS



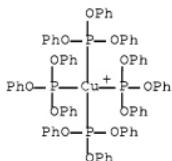
RN 197097-77-1 HCPLUS
 CN Copper(1+), tetrakis(triphenyl phosphite- κ P)-, chloride, (T-4)-
 (9CI) (CA INDEX NAME)



● Cl⁻

RN 197097-79-3 HCPLUS

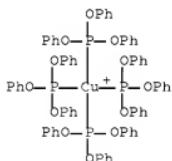
CN Copper(1+), tetrakis(triphenyl phosphite-κP)-, bromide, (T-4)-
(9CI) (CA INDEX NAME)



● Br⁻

RN 197097-81-7 HCPLUS

CN Copper(1+), tetrakis(triphenyl phosphite-κP)-, iodide, (T-4)-
(9CI) (CA INDEX NAME)

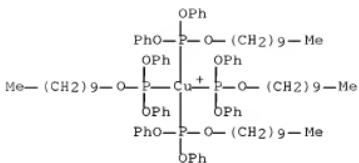


● I⁻

RN 197097-83-9 HCPLUS

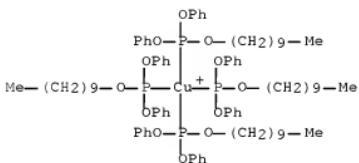
CN Copper(1+), tetrakis(decyl diphenyl phosphite-κP)-, chloride,

(T-4)- (9CI) (CA INDEX NAME)



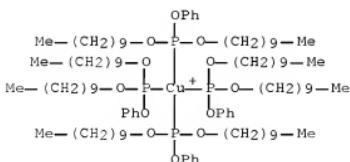
● Cl-

RN 197097-84-0 HCPLUS

CN Copper(1+), tetrakis(decyl diphenyl phosphite- κ P)-, bromide,
(T-4)- (9CI) (CA INDEX NAME)

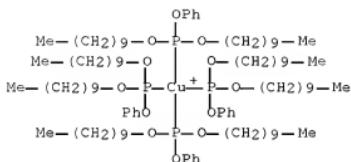
● Br-

RN 197097-86-2 HCPLUS

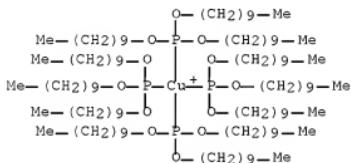
CN Copper(1+), tetrakis(didecyl phenyl phosphite- κ P)-, chloride,
(T-4)- (9CI) (CA INDEX NAME)

● Cl-

RN 197097-87-3 HCPLUS

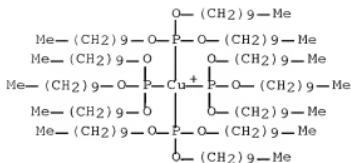
CN Copper(1+), tetrakis(didecyl phenyl phosphite- κ P)-, bromide,
(T-4)- (9CI) (CA INDEX NAME)● Br⁻

RN 197097-88-4 HCPLUS

CN Copper(1+), tetrakis[tris(decyl) phosphite- κ P]-, chloride,
(T-4)- (9CI) (CA INDEX NAME)● Cl⁻

RN 197097-89-5 HCPLUS

CN Copper(1+), tetrakis[tris(decyl) phosphite- κ P]-, bromide, (T-4)-
(9CI) (CA INDEX NAME)



● Br⁻

CC 37-6 (Plastics Manufacture and Processing)
 IT 101-02-0, Triphenyl phosphite 516-03-0, Iron oxalate
 544-19-4, Copper(II) formate 547-67-1, Nickel oxalate
 603-35-0, Triphenyl phosphine, uses 814-91-5, Copper oxalate
 1254-78-0, Didecyl phenyl phosphite 2929-86-4 3047-59-4,
 Iron diformate 3287-06-7, Decyl diphenyl phosphite
 3349-06-2, Nickel(II) formate 7440-50-8, Copper, uses
 7447-39-4, Copper dichloride, uses 7646-85-7, Zinc chloride (ZnCl₂),
 uses 7681-65-4, Copper(I) iodide 7705-08-0, Ferric chloride, uses
 7718-54-9, Nickel dichloride, uses 7758-89-6, Copper(I) chloride
 7758-94-3, Ferrous chloride 7772-99-8, Stannous chloride, uses
 7787-70-4, Copper(I) bromide 7789-45-9, Copper dibromide
 10170-69-1, Dimanganese decacarbonyl 10210-68-1, Dicobalt
 octacarbonyl 13939-06-5, Molybdenum hexacarbonyl 14040-11-0,
 Tungsten hexacarbonyl 15321-51-4, Diron nonacarbonyl 64443-05-6,
 Tetrakis(acetonitrile)copper hexafluorophosphate 80480-88-2
 134761-87-8, Cobalt oxalate 137002-85-8 197097-70-4
 197097-74-8 197097-77-1 197097-79-3
 197097-81-7 197097-83-9 197097-84-0
 197097-86-2 197097-87-3 197097-88-4
 197097-89-5
 (low-valent metals as reductive crosslinking agents for smoke
 suppression of poly(vinyl chloride))

OS.CITING REF COUNT: 44 THERE ARE 44 CAPLUS RECORDS THAT CITE THIS
 RECORD (44 CITINGS)
 REFERENCE COUNT: 60 THERE ARE 60 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L19 ANSWER 11 OF 26 HCPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1997:321384 HCPLUS Full-text
 DOCUMENT NUMBER: 126:293615
 ORIGINAL REFERENCE NO.: 126:56869a,56872a
 TITLE: Preparation of novel cyclic depsipeptide PF1022
 derivatives as anthelmintics
 INVENTOR(S): Sakanaka, Osamu; Okada, Yumiko; Ohyama, Makoto;
 Matsumoto, Maki; Takahashi, Masaaki; Murai,
 Yasushi; Inuma, Katsuharu; Achim, Harder;
 Norbert, Mencke
 PATENT ASSIGNEE(S): Meiji Seika Kaisha, Ltd., Japan
 SOURCE: PCT Int. Appl., 166 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent

LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

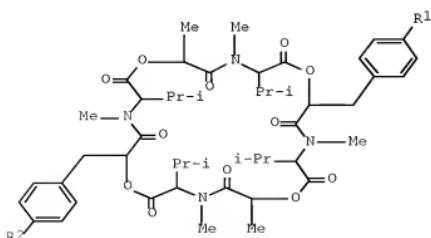
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9711064	A1	19970327	WO 1996-JP2730	19960920
W: AU, BB, BG, BR, BY, CA, CN, CZ, HU, IL, JP, KR, KZ, LK, MX, NO, NZ, PL, RO, RU, SK, TR, UA, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2232668	A1	19970327	CA 1996-2232668	19960920
AU 9670019	A	19970409	AU 1996-70019	19960920
AU 727532	B2	20001214		
CN 1201456	A	19981209	CN 1996-198101	19960920
CN 1082051	C	20020403		
EP 903347	A1	19990324	EP 1996-931283	19960920
EP 903347	B1	20050720		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
BR 9610527	A	19991221	BR 1996-10527	19960920
HU 2000001164	A2	20001128	HU 2000-1164	19960920
HU 2000001164	A3	20010428		
IL 123776	A	20020912	IL 1996-123776	19960920
PL 186168	B1	20031128	PL 1996-326024	19960920
AT 299871	T	20050815	AT 1996-931283	19960920
CZ 295705	B6	20051012	CZ 1998-855	19960920
ES 2246496	T3	20060216	ES 1996-931283	19960920
JP 4001381	B1	20071031	JP 1997-512604	19960920
NO 9801250	A	19980522	NO 1998-1250	19980319
NO 310622	B1	20010730		
US 6329338	B1	20011211	US 1998-43558	19980520
PRIORITY APPLN. INFO.:			JP 1995-244051	A 19950922
			WO 1996-JP2730	W 19960920

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 126:293615

ED Entered STN: 21 May 1997

GI



AB Novel PF1022 derivs. which are cyclic depsipeptides represented by general formula [I; R1 = H and R2 = cyanoalkoxy, thiocarbamoylalkoxy, (un)protected aminoalkoxy, N-mono- or N,N-dialkylaminoalkoxy, N,N-bis(alkoxyalkyl)aminoalkoxy, 5- or 6-membered cyclic aminoalkoxy or cyclic aminocarbonyl, or cyclic aminoalkoxycarbonyl containing ≥ 1 N atoms and optional O or S in the ring, (un)substituted C2-6 (halo or hydroxy)alkanoyl, N-mono-, or N,N-dialkylcarbamoyl, 5- to 6-membered (un)saturated heterocyclalkoxy containing ≤ 3 heteroatoms in the ring, N-mono-, or N,N-dialkylaminoalkoxycarbonyl, formyloxyalkylcarbonyl, CO2H, tert-Bu, 2-aminothiazolyl, tert-butoxy; or R1 = R2 = group listed in R2] or their salts are useful as vermicides in the prevention of treatment of vermination in humans, pets, and livestock, are prepared Thus, cyclo[MeLeu-Lac-MeLeu-(RCH2CH2O)PhLac-MeLeu-Lac-MeLeu-PhLac].HCl (II; R = H2N) and MeCHO were hydrogenated over 10% Pd-C in ethanol under normal H pressure for 8 h to give 66.7% II (R = Et2N), which at 0.01 mg/kg p.o. completely controlled Haemonchus contortus in sheep.

IT 141-53-7, Sodium formate
(preparation of novel cyclic depsipeptide PF1022 derivs. as anthelmintics)

RN 141-53-7 HCAPLUS

CN Formic acid, sodium salt (1:1) (CA INDEX NAME)



IT 544-92-3P, Copper(I) cyanide
(preparation of novel cyclic depsipeptide PF1022 derivs. as anthelmintics)

RN 544-92-3 HCAPLUS

CN Copper cyanide (Cu(CN)) (CA INDEX NAME)



IC ICM C07D273-00
ICS A61K031-395
CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 1, 5

IT 50-00-0, Formaldehyde, reactions 75-03-6, Ethyl iodide 75-07-0, Acetaldehyde, reactions 75-36-5, Acetyl chloride 95-54-5, o-Phenylenediamine, reactions 97-99-4, Tetrahydrofurfuryl alcohol 98-00-0, Furfuryl alcohol 98-59-9, Tosyl chloride 100-39-0, Benzyl bromide 107-08-4, 1-Iodo propane 108-01-0 110-52-1, 1,4-Dibromobutane 110-91-8, Morpholine, reactions 111-24-0, 1,5-Dibromopentane 115-11-7, reactions 137-07-5, o-Aminothiophenol 141-53-7, Sodium formate 156-87-6, 3-Amino-1-propanol 298-06-6, O,O'-Diethyl dithiophosphate 501-53-1, Benzyloxycarbonyl chloride 506-59-2, Dimethylamine hydrochloride 541-41-3, Ethyl

chlorocarbonate 542-69-8, 1-Iodobutane 590-17-0, Bromoacetonitrile 622-40-2, 2-Morpholinethanol 883-40-9, Diphenyldiazomethane 1192-80-9 3099-31-8, 3-Picolyl chloride 4377-33-7, 2-Picolyl chloride 5414-19-7, Bis(2-Bromoethyl) ether 6291-84-5, N-Methyl-1,3-propanediamine 6482-24-2, 2-Bromoethyl methyl ether 7252-83-7, Bromoacetaldehyde dimethyl acetal 10445-91-7, 4-Picolyl chloride 18162-48-6, tert-Butyldimethylsilyl chloride 22483-09-6, Aminoacetaldehyde dimethyl acetal 23356-96-9, (S)-Pyrrolidine-2-methanol 24424-99-5, Di-tert-butyl dicarbonate 32673-41-9, 4-(Hydroxymethyl)imidazole hydrochloride 53363-89-6, Boc-MeLeu-OH 101990-73-2, 2-Chloro-4-chloromethylpyridine 133413-70-4, PF1022 155030-71-0, PF 1022H 157567-62-9 170721-83-2 189130-85-6, 3-Chloromethyl-5-isobutyl-1,2,4-oxadiazole 189130-87-8, 3-Chloromethyl-5-isopropyl-1,2,4-oxadiazole 189130-88-9, 3-Chloromethyl-5-cyclohexyl-1,2,4-oxadiazole (preparation of novel cyclic depsipeptide PF1022 derivs. as anthelmintics)

IT 544-92-3P, Copper(I) cyanide 949-99-5P 34637-22-4P, 3-Benzoyloxycarbonylamino-1-propanol 68671-47-6P 69610-40-8P 120277-50-1P 170565-87-4P 189130-78-7P 189130-79-8P 189130-80-1P 189130-81-2P 189130-82-3P 189130-83-4P 189130-84-5P 189130-89-0P 189130-90-3P 189130-91-4P 189130-92-5P 189130-93-6P 189130-94-7P 189130-96-9P 189130-98-1P 189131-01-9P 189131-02-0P 189131-04-2P 189131-05-3P 189131-06-4P 189131-07-5P 189131-08-6P 189131-09-7P 189131-10-0P 189131-11-1P (preparation of novel cyclic depsipeptide PF1022 derivs. as anthelmintics)

OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS)
 REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 12 OF 26 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1996:622795 HCAPLUS [Full-text](#)
 DOCUMENT NUMBER: 125:250307
 ORIGINAL REFERENCE NO.: 125:46765a,46768a
 TITLE: Manufacture of aramid with good dimensional stability in moisture absorption by addition of metal salts
 INVENTOR(S): Matsuki, Toshitsugu
 PATENT ASSIGNEE(S): Teijin Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08199433	A	19960806	JP 1995-6354	19950119
JP 3450075	B2	20030922		
PRIORITY APPLN. INFO.:			JP 1995-6354	19950119

ED Entered STN: 19 Oct 1996

AB Title fibers, useful for printed circuit boards, belts, etc., are prepared by wet spinning of raw materials and impregnating with Li₂SO₄, Na₂SO₄, K₂SO₄, LiCl, NaCl, KCl, CaCl₂, CuAc₂, CuI₂, CuCl, CuCl₂, Cu citrate, CuCN, Cu 4-

cyclohexylbutyrate, Cu(II) ammonium chloride, Cu diphosphate, CuF₂, Cu(HCO₂)₂, Cu(II) gluconate, Cu(OH)₂, CuI, Cu naphthenate, Cu(NO₃)₂, Cu oleate, Cu(II) oxalate, Cu₂₀, CuO, Cu(II) phosphate, Cu(II) phthalate, Cu K chloride, CuSO₄, basic Cu sulfate, CuS₂, CuSCN, CuClO₄, Cu tartrate, Cu isophthalate, or Cu stearate before drying. Thus, 1506:2789:5658 p-phenylenediamine-3,4'-diaminodiphenyl ether-terephthaloyl chloride copolymer dope was wet spun, washed with water, passed through 1% Na₂SO₄ solution, dried, drawn, and wound to give 1500-denier fiber showing good dimensional stability in wet conditions.

IT 544-19-4, Cupric formate 544-92-3, Cuprous cyanide

(manufacture of aramid with dimensional stability in moisture absorption by wet spinning and impregnation with metal salts)

RN 544-19-4 HCPLUS

CN Formic acid, copper(2+) salt (2:1) (CA INDEX NAME)



RN 544-92-3 HCPLUS

CN Copper cyanide (Cu(CN)) (CA INDEX NAME)



IC ICM D01F011-08

ICS D01F006-60; D06M011-56

ICI D06M101-36

CC 40-7 (Textiles and Fibers)

IT 142-71-2, Cupric acetate 527-09-3, Cupric gluconate
544-19-4, Cupric formate 544-92-3, Cuprous cyanide

814-91-5, Cupric oxalate 866-82-0, Cupric citrate 1111-67-7,

Cuprous thiocyanate 1120-44-1, Cupric oleate 1317-38-0, Cupric oxide, uses 1317-39-1, Cuprous oxide, uses 1317-40-4, Cupric sulfide 1332-14-5, Basic cupric sulfate 2218-80-6 3251-23-8,

Cupric nitrate 7447-39-4, Cupric chloride, uses 7447-40-7, Potassium chloride, uses 7447-41-8, Lithium chloride, uses

7617-31-4, Copper stearate 7647-14-5, Sodium chloride, uses

7681-65-4, Cuprous iodide 7757-82-6, Sodium sulfate, uses

7758-89-6, Cuprous chloride 7758-98-7, Cupric sulfate, uses 7778-80-5, Potassium sulfate, uses 7787-70-4, Cuprous bromide

7789-19-7, Cupric fluoride 7789-45-9, Cupric bromide 7798-23-4,

Cupric phosphate 10027-30-2, Cupric phthalate 10043-52-4, Calcium chloride, uses 10377-48-7, Lithium sulfate 10534-87-9, Cupric

ammonium chloride 13877-25-3 15715-48-7 19372-21-5 20427-59-2, Cupric hydroxide 27004-40-6, Copper tartrate 40974-00-3, Copper perchlorate

(manufacture of aramid with dimensional stability in moisture absorption by wet spinning and impregnation with metal salts)

L19 ANSWER 13 OF 26 HCPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1995:763839 HCPLUS [Full-text](#)
 DOCUMENT NUMBER: 123:152907
 ORIGINAL REFERENCE NO.: 123:27049a,27052a
 TITLE: Antimicrobial method and cosmetic composition
 INVENTOR(S): Nishino, Takeshi; Otsu, Yoshiro; Arima, Yaeno;
 Nakai, Yoriko
 PATENT ASSIGNEE(S): Otsuka Pharmaceutical Co., Ltd., Japan
 SOURCE: PCT Int. Appl., 71 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9513057	A1	19950518	WO 1994-JP1911	19941111
W: AU, CN, KR, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
JP 07138155	A	19950530	JP 1993-283069	19931112
JP 07173053	A	19950711	JP 1993-319409	19931220
AU 9481162	A	19950529	AU 1994-81162	19941111
EP 728478	A1	19960828	EP 1995-900291	19941111
R: DE, ES, FR, GB, NL				
CN 1139879	A	19970108	CN 1994-194727	19941111
PRIORITY APPLN. INFO.:			JP 1993-283069	A 19931112
			JP 1993-319409	A 19931220
			WO 1994-JP1911	W 19941111

ED Entered STN: 30 Aug 1995
 AB An antimicrobial method uses a composition having excellent antimicrobial activity and photostability, reduced toxicity, and extremely suppressed side effects. The composition contains at least one member selected from among copper compds., hinokitiol and salts thereof or at least one member selected from among copper or zinc complexes of hinokitiol and salts thereof.
 IT 544-19-4, Copper diformate 544-92-3, Copper cyanide
 (antimicrobial compns. for manufacturing pharmaceuticals and cosmetics)
 RN 544-19-4 HCPLUS
 CN Formic acid, copper(2+) salt (2:1) (CA INDEX NAME)



●1/2 Cu(II)

RN 544-92-3 HCPLUS
 CN Copper cyanide (Cu(CN)) (CA INDEX NAME)



IC ICM A61K031-12
 ICS A61K007-48; A61K007-00
 CC 63-6 (Pharmaceuticals)
 Section cross-reference(s): 1, 62
 IT 59-67-6D, Nicotinic acid, copper salt 98-92-0D, Nicotinamide, copper complex 98-98-6D, Picolinic acid, copper salt 142-71-2, Copper acetate 499-44-5, Hinokitiol 499-44-5D, Hinokitiol, copper or zinc complexes 527-09-3, Copper gluconate 544-19-4, Copper diformate 544-92-3, Copper cyanide 814-91-5, Copper oxalate 1111-67-7, Copper thiocyanate 1120-44-1, Copper dioleate 1184-64-1, Copper carbonate 1317-38-0, Copper oxide, biological studies 1452-77-3D, Picolinic acid amide, copper complex 3251-23-8, Copper dinitrate 4441-63-8D, 4-Cyclohexylbutyric acid, copper salt 7440-50-8D, Copper, compds. 7440-50-8D, Copper, complexes with hinokitiol 7440-50-8D, Copper, hinokitiol complex 7440-50-8D, Copper, sulfocyanate 7440-66-6D, Zinc, complexes with hinokitiol 7681-65-4, Copper monoiodide 7758-89-6, Copper chloride 7758-98-7, Copper sulfate, biological studies 7787-70-4D, Copper monobromide, di-Me sulfate complex 7789-19-7, Copper difluoride 7789-45-9, Copper dibromide 10402-15-0, Copper citrate 11115-78-9, Copper sulfide 15739-09-0 16223-74-8, Copper phthalate 20427-59-2, Copper hydroxide 30981-48-7, Copper phosphate 65722-60-3, Ammonium copper chloride
 (antimicrobial compns. for manufacturing pharmaceuticals and cosmetics)
 OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD (9 CITINGS)
 REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 14 OF 26 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1995:348571 HCAPLUS Full-text
 DOCUMENT NUMBER: 123:168973
 ORIGINAL REFERENCE NO.: 123:30151a,30154a
 TITLE: Pd(0)-catalyzed hydrogenolysis of allylic and dienylic cyclic carbonates: synthesis of optically active homoallylic alcohols and allylic alcohols
 AUTHOR(S): Kang, Suk-Ku; Park, Dong-Chul; Rho, Ho-Sik; Yu, Chan-Mo; Hong, Jang-Hoo
 CORPORATE SOURCE: Dep. Chem., Sung Kyun Kwan Univ., Suwon, 440-746, S. Korea
 SOURCE: Synthetic Communications (1995), 25(2), 203-14
 CODEN: SYNCBV; ISSN: 0039-7911
 PUBLISHER: Dekker
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 123:168973
 ED Entered STN: 11 Feb 1995
 AB Treatment of chiral allylic carbonates with ammonium formate in the presence of Pd(0) catalyst afforded optically active homoallylic alcs. with excellent regioselectivity. However, hydrogenolysis of dienylic cyclic carbonates in the presence of Pd(0) catalyst afforded conjugated or nonconjugated (E)-dienylic alcs. depending on Pd complexes used. Using homoallylic alc. I as a chiral synthon, (R)-(+)-eldanolide, the sex pheromone of the African sugarcane stem borer, Eldana saccharana, was synthesized.
 IT 544-92-3, Copper cyanide (Cu(CN))
 (Pd(0)-catalyzed hydrogenolysis of allylic and dienylic cyclic

carbonates in preparation of optically active homoallylic alcs. and
 allylic alcs.)
 RN 544-92-3 HCAPLUS
 CN Copper cyanide (Cu(CN)) (CA INDEX NAME)



IT 540-69-2, Ammonium formate
 (Pd(0)-catalyzed hydrogenolysis of allylic and dienylic cyclic
 carbonates in preparation of optically active homoallylic alcs. and
 allylic alcs.)
 RN 540-69-2 HCAPLUS
 CN Formic acid, ammonium salt (1:1) (CA INDEX NAME)



CC 21-2 (General Organic Chemistry)
 Section cross-reference(s): 26
 IT 109-63-7 544-92-3, Copper cyanide (Cu(CN)) 998-40-3,
 Tributylphosphine 14024-61-4 14221-01-3 52522-40-4
 (Pd(0)-catalyzed hydrogenolysis of allylic and dienylic cyclic
 carbonates in preparation of optically active homoallylic alcs. and
 allylic alcs.)
 IT 540-69-2, Ammonium formate 1826-67-1, Vinylmagnesium
 bromide 15681-48-8 144536-31-2 156558-01-9 162329-60-4
 162427-95-4 167280-14-0 167280-22-0 167280-23-1 167280-24-2
 167358-06-7 167358-07-8
 (Pd(0)-catalyzed hydrogenolysis of allylic and dienylic cyclic
 carbonates in preparation of optically active homoallylic alcs. and
 allylic alcs.)
 OS.CITING REF COUNT: 8 THERE ARE 8 CAPLUS RECORDS THAT CITE THIS
 RECORD (10 CITINGS)

L19 ANSWER 15 OF 26 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1994:111514 HCAPLUS [Full-text](#)
 DOCUMENT NUMBER: 120:111514
 ORIGINAL REFERENCE NO.: 120:19631a,19634a
 TITLE: Oxychlorination catalyst, process for preparing
 the catalyst and method of oxychlorination with
 use of the catalyst
 INVENTOR(S): Komatsu, Masashi; Yamamoto, Michio; Ishino,
 Masaru; Suzukamo, Gohfu
 PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
 SOURCE: Eur. Pat. Appl., 9 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 577059	A1	19940105	EP 1993-110329	19930629
EP 577059	B1	19970924		
R: CH, DE, FR, GB, IT, LI, NL				
JP 06009445	A	19940118	JP 1992-172465	19920630
JP 3092330	B2	20000925		
US 5334789	A	19940802	US 1993-83502	19930630
PRIORITY APPLN. INFO.:			JP 1992-172465	A 19920630

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ED Entered STN: 05 Mar 1994

AB The title catalyst comprises a porous support, and a Pd compound, a Cu compound and a V compound, optionally with alkaline earth metal compd. loaded on the support. Aromatic hydrocarbons or olefins are oxychlorinated over the catalyst at a mol ratio of the feeds/HCl/O₂ of 1:(0.1-10):(0.05-5). In one embodiment, the catalyst is calcined in an O₂-containing gas or N atmospheric at 200-700° before oxychlorination reaction.

IT 541-43-5, Barium formate 544-92-3, Cuprous cyanide 592-89-2, Strontium formate 4367-08-2,
Cupric cyanide
(catalysts containing, for oxychlorination of aromatic hydrocarbons or olefins)

RN 541-43-5 HCPLUS

CN Formic acid, barium salt (8CI, 9CI) (CA INDEX NAME)



RN 544-92-3 HCPLUS

CN Copper cyanide (Cu(CN)) (CA INDEX NAME)



RN 592-89-2 HCPLUS

CN Formic acid, strontium salt (2:1) (CA INDEX NAME)



RN 4367-08-2 HCPLUS

CN Copper cyanide (Cu(CN)2) (9CI) (CA INDEX NAME)



IC ICM B01J023-89
 ICS C07C017-156
 CC 51-9 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 45, 67
 IT 62-54-4, Calcium acetate 142-71-2, Copper acetate (Cu(OAc)2)
 142-72-3, Magnesium acetate 541-43-5, Barium formate
 544-92-3, Cuprous cyanide 553-70-8, Magnesium benzoate
 557-27-7, Magnesium propionate 592-89-2, Strontium formate
 1184-64-1, Copper carbonate (CuCO3) 1314-08-5, Palladium oxide (PdO)
 1314-34-7, Vanadium oxide (V2O3) 1314-62-1, Vanadium pentoxide
 (V2O5), uses 1317-38-0, Copper oxide (CuO), uses 1317-39-1,
 Cuprous oxide (Cu2O), uses 2035-66-7, Palladium dicyanide
 3251-23-8, Copper nitrate (Cu(NO3)2) 3375-31-3, Palladium acetate
 (Pd(OAc)2) 3386-65-0, Palladium propionate 4075-81-4, Calcium
 propionate 4367-08-2, Cupric cyanide 7447-39-4, Copper
 chloride (CuCl2), uses 7487-88-9, Magnesium sulfate (MgSO4), uses
 7632-51-1, Vanadium tetrachloride (VC14) 7727-18-6, Vanadium
 oxychloride (VOC13) 7727-43-7, Barium sulfate 7758-98-7, Copper
 sulfate (CuSO4), uses 7759-02-6, Strontium sulfate (SrSO4)
 7786-30-3, Magnesium chloride (MgCl2), uses 7787-70-4, Copper
 bromide (CuBr) 7789-41-5, Calcium bromide (CaBr2) 7789-45-9,
 Copper bromide (CuBr2) 7789-48-2, Magnesium bromide (MgBr2)
 7790-38-7, Palladium iodide (PdI2) 7803-55-6, Ammonium vanadate
 ((NH4VO3)) 10022-31-8, Barium nitrate 10042-76-9, Strontium nitrate
 10043-52-4, Calcium chloride (CaCl2), uses 10102-05-3, Palladium
 nitrate (Pd(NO3)2) 10102-68-8, Calcium iodide (CaI2) 10124-37-5,
 Calcium nitrate 10361-37-2, Barium chloride (BaCl2), uses
 10377-58-9, Magnesium iodide (MgI2) 10377-60-3, Magnesium nitrate
 10476-81-0, Strontium bromide (SrBr2) 10476-85-4, Strontium chloride
 (SrCl2) 10476-86-5, Strontium iodide (SrI2) 10553-31-8, Barium
 bromide (BaBr2) 12036-21-4, Vanadium oxide (VO2) 12135-22-7,
 Palladium hydroxide (Pd(OH)2) 13444-94-5, Palladium bromide (PdBr2)
 13517-26-5, Sodium vanadate (Na4V2O7) 13566-03-5, Palladium sulfate
 (PdSO4) 13718-50-8, Barium iodide (BaI2) 13721-39-6, Sodium
 vanadate (Na3VO4) 13767-71-0, Copper iodide (CuI2) 14986-47-1,
 Vanadium chloride (VC15) 15191-80-7, Copper pyrophosphate (Cu2P2O7)
 20427-59-2, Copper hydroxide (Cu(OH)2) 27774-13-6, Vanadium
 oxysulfate (VOSO4) 46369-53-3, Cupric acetoacetate 61261-72-1,
 Palladium butanoate
 (catalysts containing, for oxychlorination of aromatic hydrocarbons or
 olefins)

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS
 RECORD (2 CITINGS)

L19 ANSWER 16 OF 26 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1993:88646 HCAPLUS Full-text
 DOCUMENT NUMBER: 118:88646
 ORIGINAL REFERENCE NO.: 118:15427a
 TITLE: Heat capacities and entropies of organic compounds
 in the condensed phase. Volume II
 AUTHOR(S): Domalski, Eugene S.; Hearing, Elizabeth D.
 CORPORATE SOURCE: Cent. Chem. Phys., Natl. Inst. Stand. Technol.,

SOURCE: Gaithersburg, MD, 20899, USA
 Journal of Physical and Chemical Reference Data
 (1990), 19(4), 881-1047
 CODEN: JPCRBU; ISSN: 0047-2689
 DOCUMENT TYPE: Journal; General Review
 LANGUAGE: English
 ED Entered STN: 02 Mar 1993
 AB A review with 565 refs. including heat capacities, entropies, and thermodn. parameters for phase transitions for >1100 organic compds.
 IT 141-53-7, Sodium formate 992-98-3, Thallium formate 5256-77-9, Copper vinylacetylenide 5893-61-8, Copper (II) formate tetrahydrate 13146-23-1, Copper phenylacetylenide 14690-98-3, Copper (II) formate tetradeuterate 33589-44-5 34993-58-3 66582-10-3 (thermodn. properties of)
 RN 141-53-7 HCPLUS
 CN Formic acid, sodium salt (1:1) (CA INDEX NAME)



RN 992-98-3 HCPLUS
 CN Formic acid, thallium(1+) salt (1:1) (CA INDEX NAME)



RN 5256-77-9 HCPLUS
 CN Copper, 3-buten-1-yanyl- (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 5893-61-8 HCPLUS
 CN Formic acid, copper(2+) salt, tetrahydrate (8CI, 9CI) (CA INDEX NAME)



●1/2 Cu(II)

●2 H₂O

RN 13146-23-1 HCPLUS
 CN Copper, (phenylethyanyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 14690-98-3 HCPLUS
 CN Formic acid, copper(2+) salt, tetra(hydrate-d2) (8CI, 9CI) (CA INDEX NAME)



●1/2 Cu(II)

●2 D₂O

RN 33589-44-5 HCPLUS
 CN Copper, 1-hexyl-1-yl- (CA INDEX NAME)



RN 34993-58-3 HCPLUS
 CN Copper, (4-phenyl-1,3-butadiynyl)- (9CI) (CA INDEX NAME)



RN 66582-10-3 HCPLUS
 CN Copper, (3-phenyl-1-propyn-1-yl)- (CA INDEX NAME)



CC 69-0 (Thermodynamics, Thermochemistry, and Thermal Properties)
 Section cross-reference(s): 22

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 Bis(ethylbenzene)chromium iodide 13146-23-1, Copper phenylacetylenide 13373-97-2, 1-Eicosanethiol 13475-82-6,
 2,2,4,6,6-Pentamethylheptane 13509-52-9, 1,3,6-Trimethyluracil 13963-57-0, Aluminum acetylacetone 14024-18-1, Iron(III) acetylacetone 14024-63-6, Zinc acetylacetone 14167-59-0, Tetratriacontane 14240-75-6, Tetraethylammonium tetrachloroferrate 14618-78-1, 1,1-Dimethoxy-3-cyanopropane 14637-34-4
 14690-98-3, Copper (II) formate tetradederate 14722-82-8, 2-Chloroisobornitrosoacetanilide 14879-21-1 14879-23-3 14901-07-6 14965-49-2, Methylammonium iodide 15649-95-3, Tetramethylammonium tetrachloroferrate 15721-10-5, p-Methacryloyloxybenzoic acid 15844-05-0, Homocubane-4-carboxylic acid 16093-77-9 16093-78-0 16577-51-8, Lithium hexanoate 16594-83-5 16647-05-5 16649-52-8 16674-78-5, Magnesium diacetate tetrahydrate 16674-79-6, Strontium dicalcium propionate 16761-13-0, Lithium heptanoate 16825-16-4, Phytone 16986-24-6, m-Carborane 17082-12-1, trans-Azobenzene 17115-98-9, Barium dicalcium propionate 17122-74-6, 4-Ethoxynitrosoacetanilide 17203-66-6, Lead dicalcium propionate 17356-96-6 17501-44-9, Zirconium acetylacetone 18001-46-2 18030-61-0, p-Trichlorosilyl biphenyl 18254-57-4, 1,1-Dicyclohexylidodecane 18343-40-3, Hexaphenylmelamine 18616-15-4 18993-50-5 18993-51-6 18993-52-7 18993-53-8 19032-64-5 19049-40-2, Beryllium oxyacetate 19261-73-5 19269-28-4, 3-Methylhexanal 19288-59-6, Phenylaminoethyl methacrylate 19353-21-0, 3,4-Dimethylpentanal 19361-62-7, Styrene-d8 19455-20-0, Potassium 2-methylpropanoate 19479-83-5 20030-30-2 20267-19-0, 2-Hydroxyethyl pivalate 20267-21-4 20321-02-2, Hydrazinum hydrogen oxalate 21279-19-6, Tetraethylammonium tetrabromoferrate 21303-03-7, Lithium butyrate 21482-12-2, Pentapropylene glycol 21679-31-2, Chromium acetylacetone 22428-30-4 22808-06-6, 2,2,5,5-Tetramethylhex-3-ene 23014-56-4, 1,1,10,10-Tetramethylcyclooctadecane 23014-57-5 23307-02-0 23358-17-0 23672-37-9 23672-38-0 24028-46-4 24800-44-0, Tripropylene glycol 24888-58-2 24936-97-8 24968-12-5, Poly(butylene terephthalate) 24979-97-3, Polytetrahydrofuran 24991-43-3, Butadiene-propylene copolymer 25014-31-7, Poly(α -methylstyrene 25036-32-2, Polyvinyltrimethylsilane 25038-54-4, Poly[imino(1-oxo-1,6-hexanediyil)], properties 25067-06-5, 1-Polyhexene 25067-58-7, Polyacetylene 25067-64-5, Poly-1,3-dioxolane 25068-01-3, Ethylene-butadiene copolymer 25085-53-4 25087-26-7, Polymethacrylic acid 25214-70-4 25248-42-4, Poly[oxy(1-oxo-1,6-hexanediyil)] 25265-71-8, Dipropylene glycol 25322-68-3 25456-55-7 25657-08-3, Tetrapropylene glycol 25686-28-6 25734-27-4, Poly[imino(1-oxo-1,2-ethanediyil)] 25853-28-5 25926-96-9 25926-99-2 25959-51-7 26202-08-4, Polyglycolide 26227-73-6 26692-50-2 26715-68-4 26744-16-1, Polyvinylidimethylphenylsilane 26745-88-0, Poly(hexamethylene sebacate) 26760-54-3 26762-10-7, Poly(hexamethylene sebacate) 27426-98-8 27613-96-3 27732-42-9, Polystyrene-d8 27974-49-8, β -Selenodiglycol 28182-81-2 28183-09-7 28323-47-9, Poly(diethylsiloxane) 28500-27-8 28576-60-5 28702-26-3 28702-43-4, Poly(1-pentene-1,5-diyl) 28702-45-6, Poly(1-octene-1,8-diyl) 28726-71-8 29171-20-8 29412-62-2 29415-95-0, Manxane 29743-08-6 29743-10-0 29743-11-1 30209-80-4 31295-54-2 31401-34-0 31693-72-8 32761-36-7, Azacymantrene 33440-88-9 33589-44-5 33734-55-3 33734-56-4 34028-37-0 34244-89-8 34244-90-1 34244-91-2 34244-92-3, Thallium nonanoate 34375-89-8, 3-Methylpyrrolidine 34504-12-6 34507-12-5, Wurster's Blue perchlorate

34993-58-3 35165-78-7, Bis(m-xylene)chromium iodide
 35280-78-5 35602-69-8, Cholesteryl stearate 35705-97-6
 35812-56-7 36376-18-8 36653-82-4, 1-Hexadecanol 37196-91-1
 37541-72-3, Ammonium hydrogen oxalate hemihydrate 37869-35-5,
 Hexamethyltrisilazane 38332-83-1 38423-62-0,
 2-Ethoxyisonitrosoacetanilide 38454-35-2 38869-19-1 38974-20-8
 39015-36-6 39060-95-2, 2,2'-Biindanyl 39470-17-2, Biferrocenium
 triiodide 40317-63-3 40937-40-4, Methylammonium
 hexachlorotellurate 41902-42-5, Tri-tert-Butylmethanol 42182-84-3
 42182-87-6 42525-64-4 42572-91-8 47189-08-2 52709-84-9
 52709-85-0 52794-80-6, Hexapropylene glycol 52910-78-8
 53188-90-2 53261-61-3 55011-91-1, Thiourea nitrate 55671-71-1
 56379-16-9 56544-26-4 56685-61-1 56993-57-8 57863-11-3
 57863-12-4 57947-14-5 58675-48-2 58675-49-3 58675-50-6
 59358-70-2 59358-71-3 59358-73-5 59454-35-2 59683-18-0
 59789-07-0 59890-70-9 60046-87-9 60130-27-0,
 Poly[(diphenylgermylene)-1,2-ethenediyil] 60435-70-3,
 2-Methyl-1-heptanol 60970-45-8 61361-56-6 62155-50-4
 62629-77-0 63287-55-8 63335-41-1
 (thermodn. properties of)
 IT 63424-48-6 63424-49-7 63441-99-6 64167-86-8 65201-70-9
 65201-71-0 65445-09-2 65860-74-4 66160-69-8,
 Poly[(diphenylsilylene)-1,2-ethenediyil] 66160-70-1 66167-13-3
 66414-48-0 66582-10-3 67143-09-3 67194-30-3
 69655-76-1 70285-56-2 70351-94-9 71203-37-7 71203-38-8
 71203-39-9 71203-40-2 71203-41-3 71203-42-4 71203-43-5
 71332-83-7 71332-84-8 71332-85-9 71332-86-0 72172-70-4,
 Polytriazine 73138-26-8, Manganocene 73170-02-2 73180-46-8
 73746-94-8 74438-86-1 75511-51-2 75511-55-6 75511-57-8
 75899-75-1 76204-55-2 76204-56-3 76204-57-4 76204-58-5
 76204-59-6 76204-61-0 76204-62-1 76204-63-2 76204-64-3
 76204-65-4 76204-68-7 76212-79-8 76585-14-3 80732-79-2
 82234-36-4, Methyl trichlorothioacrylate 84741-01-5 85131-86-8
 85490-99-9, β -Cyclodextrin undecahydrate 85668-72-0
 85668-73-1 85668-75-3 85668-76-4 86011-33-8 88269-10-7
 88529-43-5 89037-75-2 89187-04-2 90836-90-1 91628-64-7
 92341-23-6 92341-24-7 92341-25-8 92341-26-9 92341-27-0
 92341-28-1 92341-29-2 98566-49-5 99409-67-3 99914-84-8
 99916-30-0 106148-16-0 108339-57-7 110505-51-6 114481-22-0
 120660-76-6 123350-88-9 133827-91-5 145276-96-6 145276-97-7
 145276-98-8 145276-99-9 145277-00-5 145277-01-6 145277-02-7
 145277-03-8 145277-04-9 145277-05-0 145709-01-9
 (thermodn. properties of)

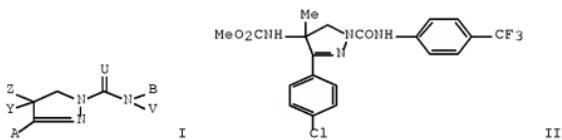
OS.CITING REF COUNT: 33 THERE ARE 33 CAPLUS RECORDS THAT CITE THIS RECORD (33 CITINGS)

L19 ANSWER 17 OF 26 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1992:214493 HCAPLUS Full-text
 DOCUMENT NUMBER: 116:214493
 ORIGINAL REFERENCE NO.: 116:36353a,36356a
 TITLE: Preparation of
 N-aryl-3-aryl-4-substituted-4,5-dihydro-1H-pyrazol
 e-1-carboxamides as pesticides
 INVENTOR(S): Jacobson, Richard Martin
 PATENT ASSIGNEE(S): Rohm and Haas Co., USA
 SOURCE: Eur. Pat. Appl., 84 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 466408	A1	19920115	EP 1991-306113	19910704
EP 466408	B1	20000112		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
AT 188690	T	20000115	AT 1991-306113	19910704
ES 2143459	T3	20000516	ES 1991-306113	19910704
CA 2046420	A1	19920114	CA 1991-2046420	19910705
AU 9180313	A	19920116	AU 1991-80313	19910710
AU 652762	B2	19940908		
ZA 9105394	A	19920325	ZA 1991-5394	19910711
BR 9102980	A	19920211	BR 1991-2980	19910712
HU 58702	A2	19920330	HU 1991-2355	19910712
JP 06080642	A	19940322	JP 1991-172304	19910712
JP 3321186	B2	20020903		
AU 9480323	A	19950413	AU 1994-80323	19941208
AU 680315	B2	19970724		
PRIORITY APLN. INFO.:			US 1990-553220	A 19900713
			US 1991-713692	A 19910617

OTHER SOURCE(S): MARPAT 116:214493
ED Entered STN: 31 May 1992
GT



AB Title compds. [I; A = (hetero)aryl; Y = isothiocyanato, isocynano, amino, alkanoyloxy, alkoxy, PhO, alkylthio, phenylthio; Z = H, alkyl; B = (hetero)aryl; U = O, S; V = H, alkyl, alkoxyalkyl, alkylthioalkyl, CHO, alkylcarbonyl, CO₂H, PhO, alkoxy carbonyloxy, alkylsulfonyl, PhS, etc.], were prepared. Thus, N-(4-trifluoromethylphenyl)-3-(4-chlorophenyl)-4-carbomethoxy-4-methyl-4,5-dihydro-1H-pyrazole-1-carboxamide was converted successively to the 4-acid, 4-carbonyl chloride, 4-azidocarbonyl derivative, 4-isocyanato derivative and finally to title carboxamide II. II as 600 ppm sprays gave complete control of *Epilachna varivestis*, *Spodoptera eridonia*, and *Anthonomus grandis grandis*.

IT 544-92-3, Cuprous cyanide
(cyanation by, of chloropropoxyethane)
RN 544-92-3 HCPLUS
CN Copper cyanide (Cu(CN)) (CA INDEX NAME)

CN Copper cyanide ($\text{Cu}(\text{CN})$) (CA INDEX NAME)

$$\text{Cu} - \text{C} \equiv \text{N}$$

IT 89806-44-0P
 (preparation of, as pesticide intermediate)
 RN 89806-44-0 HCPLUS
 CN Acetic acid, formate (1:1) (CA INDEX NAME)

CM 1

CRN 108-24-7
 CMF C4 H6 O3



CM 2

CRN 64-18-6
 CMF C H2 O2



IC ICM C07D231-06
 ICS A01N043-56; C07D213-46; C07D307-58; C07D275-02; C07D277-34;
 C07C049-225

CC 28-8 (Heterocyclic Compounds (More Than One Hetero Atom))
 Section cross-reference(s): 5

IT 544-92-3, Cuprous cyanide
 (cyanation by, of chloropropoxyethane)
 IT 692-35-3P 5736-86-7P 24437-48-7P 24437-53-4P 30780-45-1P
 41806-25-1P 53704-74-8P 83882-67-1P 89806-44-0P
 116836-23-8P 129139-89-5P 131824-42-5P 141131-84-2P
 141134-14-7P 141134-15-8P 141134-16-9P 141134-17-0P
 141134-18-1P 141134-19-2P 141134-20-5P 141134-21-6P
 141134-22-7P 141134-23-8P 141134-24-9P 141134-25-0P
 141134-26-1P 141134-27-2P 141134-28-3P 141134-29-4P
 141134-30-7P 141134-31-8P 141134-32-9P 141134-33-0P
 141134-34-1P 141134-35-2P 141134-36-3P 141134-37-4P
 141134-38-5P 141134-39-6P 141134-40-9P 141134-41-0P
 141134-42-1P 141134-43-2P 141134-44-3P 141134-45-4P
 141134-46-5P 141134-47-6P 141134-48-7P 141134-49-8P
 (preparation of, as pesticide intermediate)

OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS
 RECORD (3 CITINGS)

L19 ANSWER 18 OF 26 HCPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1990:430168 HCPLUS Full-text
 DOCUMENT NUMBER: 113:30168
 ORIGINAL REFERENCE NO.: 113:5083a,5086a
 TITLE: Calculation of the enthalpies of formation of
 crystalline transition metal salts
 AUTHOR(S): Kasenov, B. K.

CORPORATE SOURCE: USSR
 SOURCE: Tsvetnye Metally (Moscow, Russian Federation)
 (1990), (3), 44-6
 CODEN: TVMTAX; ISSN: 0372-2929
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 ED Entered STN: 21 Jul 1990
 AB A method based on additivity of enthalpic increments for ions is developed for the calcn. of the heats of formation of transition metal salts. Contribution factors for the ions are tabulated as well as the calculated heats of formation of 72 salts.
 IT 3047-59-4, Ferrous formate 4367-08-2, Copper cyanide (Cu(CN)2) 27115-36-2, Chromium formate 84973-21-7
 (heat of formation of)
 RN 3047-59-4 HCAPLUS
 CN Formic acid, iron(2+) salt (8CI, 9CI) (CA INDEX NAME)



●1/2 Fe(II)

RN 4367-08-2 HCAPLUS
 CN Copper cyanide (Cu(CN)2) (9CI) (CA INDEX NAME)



RN 27115-36-2 HCAPLUS
 CN Formic acid, chromium(3+) salt (3:1) (CA INDEX NAME)



●1/3 Cr(III)

RN 84973-21-7 HCAPLUS
 CN Formic acid, mercury(2+) salt (9CI) (CA INDEX NAME)



●1/2 Hg(II)

CC 69-2 (Thermodynamics, Thermochemistry, and Thermal Properties)
 IT 516-03-0, Ferrous oxalate 542-84-7, Cobalt cyanide (co(cn)2)
 547-68-2, Zinc oxalate 628-52-4 814-89-1, Cobalt oxalate
 814-91-5 1184-64-1 1948-47-6, Iron cyanide (fe(cn)2)
 3047-59-4, Ferrous formate 3094-87-9, Ferrous acetate
 4367-08-2, Copper cyanide (Cu(CN)2) 7616-83-3, Mercury
 perchlorate (hg(clo4)2) 7757-87-1 7757-95-1, Nickel sulfite
 (nis03) 7798-23-4, Copper phosphate (cu3(po4)2) 10045-94-0
 10102-50-8 10214-40-1, Copper selenite (cuseo3) 10381-36-9, Nickel
 phosphate (ni3(po4)2) 13446-03-2, Manganese dibromide 13446-44-1,
 Manganese pyrophosphate (mn2p2o7) 13455-31-7, Cobalt perchlorate
 (co(clo4)2) 13455-36-2, Cobalt phosphate (co3(po4)2) 13464-44-3
 13477-17-3, Cadmium phosphate (cd3(po4)2) 13568-71-3, Manganese
 sulfite (mnso3) 13597-44-9 13637-71-3, Nickel perchlorate
 (ni(clo4)2) 13767-71-0, Cupric iodide 13770-18-8, Cupric
 perchlorate 13812-58-3, Copper tellurite (cuteo3) 13825-86-0,
 Chromium sulfate (crso4) 13870-15-0, Mercury selenate (hgseo4)
 13933-23-8, Ferrous perchlorate 14013-02-6, Copper sulfite (cuso3)
 14013-86-6, Iron nitrate (fe(no3)2) 14448-18-1, Nickel pyrophosphate
 (ni2p2o7) 14590-19-3, Cobalt selenate (coseo4) 14640-56-3, Cobalt
 pyrophosphate (co2p2o7) 14676-93-8, Chromium oxalate 14693-75-5
 14940-41-1, Iron phosphate (fe3(po4)2) 15060-62-5, Nickel selenate
 (niseo4) 15191-80-7, Copper pyrophosphate (cu2p2o7) 15600-62-1,
 Cadmium pyrophosphate (cd2p2o7) 15600-69-8, Iron selenite (feso3)
 15851-45-3 15851-50-0 15851-51-1, Cobalt tellurite (coteo3)
 15851-52-2, Nickel tellurite (niteo3) 15857-43-9, Iron selenate
 (feso4) 17135-66-9, Chromium nitrate (cr(no3)2) 18734-50-4,
 Chromium carbonate (crc03) 21480-65-9 22400-99-3, Manganese
 cyanide (mn(cn)2) 25160-35-4 27115-36-2, Chromium
 formate 32702-66-2 50820-24-1, Iron sulfite (feso3) 50968-00-8,
 Mercury carbonate 57449-29-3, Chromium sulfite (crso3) 61136-66-1
 61136-68-3 79346-74-0, Chromium cyanide (cr(cn)2)
 84973-21-7 89190-52-3, Aluminum chromium oxide (Al2CrO4)
 89190-53-4, Aluminum mercury oxide (Al2HgO4) 127771-97-5
 127771-98-6 127771-99-7 127772-00-3 127772-01-4
 (heat of formation of)

L19 ANSWER 19 OF 26 HCPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1990:83178 HCPLUS Full-text
 DOCUMENT NUMBER: 112:83178
 ORIGINAL REFERENCE NO.: 112:14095a,14098a
 TITLE: Reportable quantity adjustments; delisting of
 ammonium thiosulfate
 CORPORATE SOURCE: United States Environmental Protection Agency,
 Washington, DC, 20460, USA
 SOURCE: Federal Register (1989), 54(155), 33426-84, 14 Aug
 1989
 CODEN: FEREAC; ISSN: 0097-6326

DOCUMENT TYPE: Journal
 LANGUAGE: English

ED Entered STN: 03 Mar 1990

AB Under the Federal Comprehensive Environmental Response, Compensation, and
 Liability Act, the EPA is promulgating final reportable quantities (RQ) for
 258 hazardous substances and hazardous waste streams. NH4 thiosulfate is
 removed from the list of hazardous substances since the median lethal
 concentration is well above 500 mg/L for aquatic toxicity. Also included in
 this final rule is replacement of the registered trademark Gelthane with the
 generic name difocal, as several companies manufacture this substance.

IT 544-18-3, Cobaltous formate 544-92-3, Copper

cyanide 557-41-5, Zinc formate
 (environmental pollution from release of, reportable quantity for,
 in USA)

RN 544-18-3 HCAPLUS
 CN Formic acid, cobalt(2+) salt (2:1) (CA INDEX NAME)



●1/2 Co(II)

RN 544-92-3 HCAPLUS
 CN Copper cyanide (Cu(CN)) (CA INDEX NAME)



RN 557-41-5 HCAPLUS
 CN Formic acid, zinc salt (2:1) (CA INDEX NAME)



●1/2 Zn

CC 59-2 (Air Pollution and Industrial Hygiene)

Section cross-reference(s): 60, 61

IT 111-54-6, Ethylenebisdithiocarbamic acid 111-54-6D, esters and salts
 111-91-1, Bis(2-chloroethoxy)methane 115-02-6, Azaserine 115-29-7,
 Endosulfan 115-32-2, Dicofol 116-06-3, Aldicarb 117-80-6,
 Dichlone 117-81-7, Bis(2-ethylhexyl)phthalate 117-84-0,
 1,2-Benzenedicarboxylic acid, diethyl ester 118-74-1, Benzene,
 hexachloro- 119-90-4, [1,1'-Biphenyl]-4,4'-diamine,3,3'-dimethoxy-
 119-93-7 120-12-7, Anthracene, biological studies 120-58-1,
 1,3-Benzodioxole, 5-1-propenyl)- 120-82-1, 1,2,4-Trichlorobenzene
 120-83-2, 2,4-Dichlorophenol 121-44-8, biological studies
 121-75-5, Malathion 122-09-8, Benzenethanamine,
 α,α -dimethyl- 122-66-7, Hydrazine, 1,2-diphenyl-
 123-33-1, Maleic hydrazide 123-62-6, Propionic anhydride 123-63-7,
 Paraldehyde 123-86-4, Butyl acetate 123-91-1,
 1,4-Diethylenedioxide, biological studies 123-92-2, Iso-Amyl acetate
 124-04-9, Hexanedioic acid, biological studies 124-40-3,
 Dimethylamine, biological studies 124-41-4, Sodium methylate
 124-48-1, Chlorodibromomethane 126-98-7, Methacrylonitrile
 127-18-4, Ethene, tetrachloro-, biological studies 127-82-2
 129-00-0, Pyrene, biological studies 130-15-4, 1,4-Naphthalenedione
 131-11-3, 1,2-Benzenedicarboxylic acid, dimethyl ester 131-74-8,
 Ammonium picrate 131-89-5, 2-Cyclohexyl-4,6-dinitrophenol

133-06-2, Captan 134-32-7, 1-Naphthalenamine 137-26-8 140-88-5
 141-78-6, Acetic acid, ethyl ester, biological studies 142-28-9,
 1,3-Dichloropropane 142-71-2, Cupric acetate 142-84-7,
 Dipropylamine 143-33-9, Sodium cyanide 143-50-0, Kepone
 145-73-3, Endothall 148-82-3, Methylalan 151-50-8, Potassium
 cyanide 151-56-4, Aziridine, biological studies 152-16-9,
 Diphosphoramide, octamethyl- 189-55-9, Benzo[rst]pentaphene
 191-24-2, Benzol[ghil]perylene 193-39-5, Indeno(1,2,3-cd)pyrene
 205-99-2, Benzo[b]fluoranthene 206-44-0, Fluoranthene 207-08-9,
 Benzo[k]fluoranthene 208-96-8, Acenaphthylene 218-01-9,
 1,2-Benzphenanthrene 225-51-4, Benz[c]acridine 297-97-2
 298-00-0, Methyl parathion 298-02-2, Phorate 298-04-4, Disulfoton
 300-76-5, Naled 301-04-2, Acetic acid, lead(2+) salt 305-03-3
 309-00-2, Aldrin 311-45-5, Diethyl p-nitrophenyl phosphate
 315-18-4, Mexacarbate 319-84-6, α -BHC 319-85-7, β -BHC
 319-86-8, δ -BHC 329-71-5, 2,5-Dinitrophenol 330-54-1
 333-41-5, Diazinon 353-50-4, Carbon oxyfluoride 357-57-3, Brucine
 460-19-5, Cyanogen 465-73-6, Isodrin 492-80-8, Benzenamine,
 4,4'-carbonimidoylibis (N,N-dimethyl- 494-03-1, Chlornaphazine
 504-24-5, 4-Aminopyridine 504-60-9, 1-Methylbutadiene 506-61-6,
 Potassium silver cyanide 506-64-9, Silver cyanide (Ag(CN))
 506-68-3, Cyanogen bromide 506-77-4, Cyanogen chloride ((CN)Cl)
 506-87-6, Ammonium carbonate 506-96-7, Acetyl bromide 509-14-8,
 Methane, tetranitro- 510-15-6 528-29-0, o-Dinitrobenzene
 534-52-1, 4,6-Dinitro-o-cresol 540-59-0, 1,2-Dichloroethylene
 540-73-8, 1,2-Dimethylhydrazine 540-88-5, tert-Butyl acetate
 541-09-3, Uranyl acetate 541-53-7, Thioimidodicarbonic diamide
 [(H2N)C(S)]2NH 541-73-1, Benzene, 1,3-dichloro- 542-62-1, Barium
 cyanide 542-75-6, 1,3-Dichloropropene 542-76-7,
 3-Chloropropionitrile 542-88-1 543-90-8, Cadmium acetate
 544-18-3, Cobaltous formate 544-92-3, Copper
 cyanide 554-84-7 557-19-7, Nickel cyanide (Ni(CN)2) 557-21-1,
 Zinc cyanide 557-34-6, Zinc acetate 557-41-5, Zinc
 formate 563-12-2, Ethion 563-68-8, Acetic acid, thallium(1+) salt
 573-56-8, 2,6-Dinitrophenol 591-08-2, Acetamide,
 N-(aminothioxomethyl)- 592-01-8, Calcium cyanide 592-04-1, Mercury
 cyanide (Hg(CN)2) 592-85-8, Mercuric thiocyanate 592-87-0, Lead
 thiocyanate 594-42-3, Methanesulfenyl chloride, trichloro-
 598-31-2, Bromoacetone 606-20-2, Benzene, 2-methyl-1,3-dinitro-
 608-93-5, Benzene, pentachloro- 610-39-9, 3,4-Dinitrotoluene
 615-53-2, Carbamic acid, methylnitroso-, ethyl ester 621-64-7
 624-83-9, Methane, isocyanato- 625-16-1, tert-Amyl acetate
 628-63-7, Amyl acetate 628-86-4 630-10-4, Selenourea 630-20-6,
 Ethane, 1,1,1,2-tetrachloro 631-61-8, Ammonium acetate 636-21-5,
 Benzenamine, 2-methyl-, hydrochloride 640-19-7, Acetamide, 2-fluoro-
 684-93-5, N-Nitroso-N-methylurea 692-42-2, Arsine, diethyl-
 696-28-6, Arsonous dichloride, phenyl- 759-73-9,
 N-Nitroso-N-ethylurea 764-41-0, 2-Butene, 1,4-dichloro- 765-34-4,
 Oxiranecarboxaldehyde 814-91-5 815-82-7, Cupric tartrate
 924-16-3, 1-Butanamine, N-butyl-N-nitroso 930-55-2,
 N-Nitrosopyrrolidine 959-98-8, α -Endosulfan 1024-57-3,
 Heptachlor epoxide 1031-07-8, Endosulfan sulfate 1066-30-4,
 Chromic acetate 1066-33-7, Ammonium bicarbonate 1072-35-1, Lead
 stearate 1111-78-0, Ammonium carbamate 1113-38-8, Ammonium oxalate
 1116-54-7, Ethanol, 2,2'-(nitrosoimino)bis- 1120-71-4,
 1,2-Oxathiolane, 2,2-dioxide 1185-57-5, Ferric ammonium citrate
 1194-65-6, Dichlobenil 1300-71-6, Xylenol 1303-28-2, Arsenic
 pentoxide 1303-33-9, Arsenic trisulfide 1309-64-4, Antimony
 trioxide, biological studies 1310-58-3, Potassium hydroxide,

biological studies 1310-73-2, Sodium hydroxide, biological studies 1314-32-5, Thallic oxide 1314-62-1, Vanadium pentoxide, biological studies 1314-80-3, Phosphorus pentasulfide 1314-84-7, Zinc phosphide 1314-87-0, Lead sulfide 1319-77-3 1321-12-6, Nitrotoluene 1327-53-3, Arsenic oxide (As2O3) 1330-20-7, Benzene, dimethyl, biological studies 1332-07-6, Zinc borate 1333-83-1, Sodium bifluoride 1335-32-6, Lead,bis(acetato-O)tetrahydroxytri 1336-21-6, Ammonium hydroxide 1338-23-4, 2-Butanone peroxide 1341-49-7, Ammonium bifluoride 1464-53-5, 2,2'-Bioxirane 1563-66-2, Carbofuran 1746-01-6 1762-95-4, Ammonium thiocyanate 1863-63-4, Ammonium benzoate 1888-71-7, Hexachloropropene 1918-00-9 2032-65-7, Mercaptodimethyl 2303-16-4, Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester 2312-35-8, Propargite 2465-27-2, Auramine 2763-96-4, 5-(Aminomethyl)-3-isoxazolol 2921-88-2, Chloryrifos 2944-67-4 3012-65-5 3164-29-2, Ammonium tartrate 3165-93-3, Benzenamine, 4-chloro-2-methyl-, hydrochloride 3251-23-8, Cupric nitrate 3288-58-2, O,O-Diethyl-S-methyl dithiophosphate 3486-35-9, Zinc carbonate 3689-24-5 4170-30-3, 2-Butenal 4463-43-8 4549-40-0 5344-82-1, 1-(o-Chlorophenyl)thiourea 6533-73-9, Carbonic acid, dithallium(1+) salt 7005-72-3, 4-Chlorophenyl phenyl ether 7421-93-4, Endrin aldehyde 7439-92-1, Lead, biological studies 7439-97-6, Mercury, biological studies 7439-97-6D, Mercury, compds. 7440-02-0, Nickel, biological studies 7440-22-4, Silver, biological studies 7440-23-5, Sodium, biological studies 7440-28-0, Thallium, biological studies 7440-36-0, Antimony, biological studies 7440-36-0D, Antimony, compds. 7440-38-2, Arsenic, biological studies 7440-38-2D, Arsenic, compds. 7440-41-7, Beryllium, biological studies 7440-41-7D, Beryllium, compds. 7440-43-9, Cadmium, biological studies 7440-43-9D, Cadmium, compds. 7440-47-3, Chromium, biological studies 7440-47-3D, Chromium, compds. 7440-50-8, Copper, biological studies 7440-50-8D, Copper, compds. 7440-66-6, Zinc, biological studies 7446-08-4, Selenium dioxide 7446-14-2, Lead sulfate 7446-18-6, Sulfuric acid, dithallium(1+) salt 7446-27-7, Lead phosphate 7447-39-4, Cupric chloride, biological studies 7488-56-4, Selenium sulfide 7558-79-4, Sodium phosphate, dibasic 7601-54-9, Sodium phosphate, tribasic 7631-89-2, Sodium arsenate 7631-90-5, Sodium bisulfite (environmental pollution from release of, reportable quantity for, in USA)

L19 ANSWER 20 OF 26 HCPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1986:479075 HCPLUS Full-text

DOCUMENT NUMBER: 105:79075

ORIGINAL REFERENCE NO.: 105:12837a,12840a

TITLE: Palladium-catalyzed coupling of vinyl triflates with organostannanes. Synthetic and mechanistic studies

AUTHOR(S): Scott, William J.; Stille, J. K.

CORPORATE SOURCE: Dep. Chem., Colorado State Univ., Fort Collins, CO, 80523, USA

SOURCE: Journal of the American Chemical Society (1986), 108(11), 3033-40
CODEN: JACSAT; ISSN: 0002-7863

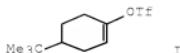
DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 105:79075

ED Entered STN: 06 Sep 1986

GI



AB The palladium-catalyzed coupling reaction of vinyl triflates, e.g., (I), with acetylenic, vinyl, allyl, and alkyl tin reagents in the presence of LiCl or another suitable salt takes place in high yields under mild reaction conditions; however, benzyl and Ph tin reagents give poor yield of coupled product. The utilization of a tin or silicon hydride reagent in place of the organotin partner yields the alkene by reductive cleavage of the triflate group. The palladium-catalyzed reaction of vinyl triflates with Me₃SnSnMe₃ gives vinyl stannanes in high yields. Regioselectively formed vinyl triflates can be used to produce 1,3-dienes as the regioisomeric coupled products.

IT 141-53-7

(palladium catalyzed reduction of tert-butylcyclohexenyl triflate by)

RN 141-53-7 HCPLUS

CN Formic acid, sodium salt (1:1) (CA INDEX NAME)



● Na

IT 33589-44-5

(reaction of, with lithiated bis(tributylstannyly)ethylene)

RN 33589-44-5 HCPLUS

CN Copper, 1-hexyn-1-yl- (CA INDEX NAME)



CC 29-8 (Organometallic and Organometalloidal Compounds)

Section cross-reference(s): 24

IT 64-18-6, reactions 102-82-9 141-53-7 302-01-2,
reactions 617-86-7 628-41-1 688-73-3 7580-67-8 7693-26-7
9004-73-3 16853-85-3 16940-66-2 63717-73-7

(palladium catalyzed reduction of tert-butylcyclohexenyl triflate by)

IT 33589-44-5

(reaction of, with lithiated bis(tributylstannyly)ethylene)

OS.CITING REF COUNT: 237 THERE ARE 237 CAPLUS RECORDS THAT CITE THIS
RECORD (239 CITINGS)

L19 ANSWER 21 OF 26 HCPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1983:471129 HCPLUS Full-text

DOCUMENT NUMBER: 99:71129

ORIGINAL REFERENCE NO.: 99:11059a,11062a

TITLE: Sugar ketals

INVENTOR(S): Matsumura, Koichi; Aono, Tetsuya
 PATENT ASSIGNEE(S): Takeda Chemical Industries, Ltd., Japan
 SOURCE: Eur. Pat. Appl., 27 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 76118	A1	19830406	EP 1982-305053	19820924
EP 76118	B1	19850904		
R: BE, CH, DE, FR, GB, IT, LI, NL, SE				
JP 58055494	A	19830401	JP 1981-155071	19810929
JP 58167583	A	19831003	JP 1982-50575	19820329
US 4460767	A	19840717	US 1982-418266	19820915
CA 1191844	A1	19850813	CA 1982-412291	19820927
DK 8204303	A	19830330	DK 1982-4303	19820928
PRIORITY APPLN. INFO.:			JP 1981-155071	A 19810929
			JP 1982-50575	A 19820329

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 99:71129

ED Entered STN: 12 May 1984

AB Sugar ketals were prepared by treating a sugar with a ketone in the presence of Cu or its oxide, hydroxide, or salt and HCl or HBr, or in the presence of CuCl₂ or CuBr₂. Thus, a mixture of 200 mL Me₂CO, 10.0 g D-xylose, 138 mg CuF₂.2H₂O, and 1 mL of a 2 mol/L solution of HCl in dioxane was refluxed for 7 h to give 83.7% 1,2;3,5-di-O-isopropylidene- α -D-xylofuranose of purity \geq 97%.
 IT 544-19-4 544-92-3
 (catalysts, for ketalization of sugars)
 RN 544-19-4 HCPLUS
 CN Formic acid, copper(2+) salt (2:1) (CA INDEX NAME)



RN 544-92-3 HCPLUS
 CN Copper cyanide (Cu(CN)) (CA INDEX NAME)



IC C07H009-04; C07H015-20; C07H015-04; C07D307-20
 CC 33-1 (Carbohydrates)
 IT 544-19-4 544-92-3 1317-38-0, uses and
 miscellaneous 1317-39-1, uses and miscellaneous 7440-50-8, uses
 and miscellaneous 7447-39-4, uses and miscellaneous 7758-98-7,

uses and miscellaneous 7787-70-4 7789-19-7 7789-45-9
 19372-21-5 20427-59-2
 (catalysts, for ketolization of sugars)
 OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS
 RECORD (2 CITINGS)

L19 ANSWER 22 OF 26 HCPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1976:555414 HCPLUS Full-text
 DOCUMENT NUMBER: 85:155414
 ORIGINAL REFERENCE NO.: 85:24867a,24870a
 TITLE: Copper(I) and copper(II) in complexes of
 biochemical significance studied by x-ray
 photoelectron spectroscopy
 AUTHOR(S): Rupp, Heinz; Weser, Ulrich
 CORPORATE SOURCE: Physiol.-Chem. Inst., Univ. Tuebingen, Tuebingen,
 Fed. Rep. Ger.
 SOURCE: Biochimica et Biophysica Acta, Protein Structure
 (1976), 446(1), 151-65
 CODEN: BBPTBH; ISSN: 0005-2795
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 12 May 1984
 AB X-ray photoelectron spectroscopic measurements of Cu complexes of biochem.
 significance were carried out to determine whether or not Cu is present in the
 Cu(I) or Cu(II) state. Only 1 single homogeneous signal in the x-ray
 photoelectron spectra of the Cu(I) 2p_{1/2} and 2p_{3/2} levels was seen, regardless
 of what Cu(I) complex was used. By contrast, 1 more or less split satellite
 in addition to the main 2p Cu signal appeared when Cu(II) complexes were
 studied. The extent of satellite splitting was dependent on the nature of the
 ligands coordinated with Cu(II). Thus, a strong splitting was observed in the
 spectra of Cu-(trifluoroacetylacetone)₂ and Cu-(biuret)Cl₂ where Cu(II) is
 exclusively bound to O having a formal double bond. No such splitting was
 seen in Cu(II) chelates where the metal was bound to single bonded O and/or
 N. In the antiferromagnetically coupled Cu(II) complexes, Cu₂-(succinate)₂·
 4H₂O, Cu-(HCOO)₂, CuO, and in the completely diamagnetic Cu₂-(1,3-
 diphenyltriazene)₄ complex, Cu(II) was detected. The reaction of Cu(I) and
 Cu(II) with the SH of either cysteine, penicillamine, or α -
 mercaptopropionylglycine yielded Cu(I) complexes. During the x-ray exposure
 of the different samples, photoredn. of Cu(II) was not observed
 IT 544-19-4 544-92-3
 (photoelectron spectra of, electron binding energies and satellite
 splittings of)
 RN 544-19-4 HCPLUS
 CN Formic acid, copper(2+) salt (2:1) (CA INDEX NAME)



●1/2 Cu(II)

RN 544-92-3 HCPLUS
 CN Copper cyanide (Cu(CN)) (CA INDEX NAME)



CC 6-13 (General Biochemistry)
 IT 52-67-5 52-67-5D, D-Valine, 3-mercaptop-, copper complexes 52-90-4,
 properties 52-90-4D, L-Cysteine, copper complexes 56-40-6,
 properties 56-41-7, properties 56-89-3, properties 56-89-3D,
 L-Cystine, copper complexes 147-14-8 544-19-4
 544-92-3 1317-38-0, properties 1953-02-2 6000-44-8
 7268-91-9 12544-82-0 14324-82-4 15558-63-1 16480-55-0
 20902-45-8 22229-10-3 53183-06-5 57300-92-2 60924-19-8
 (photoelectron spectra of, electron binding energies and satellite
 splittings of)
 OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
 RECORD (1 CITINGS)

L19 ANSWER 23 OF 26 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1974:3634 HCAPLUS Full-text
 DOCUMENT NUMBER: 80:3634
 ORIGINAL REFERENCE NO.: 80:638h,639a
 TITLE: Copper ketenides
 INVENTOR(S): Bryce-Smith, Derek; Blues, Ernest T.
 SOURCE: Brit., 5 pp.
 CODEN: BRXXAA
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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GB 1329252	A	19730905	GB 1970-1663	19700113
US 3776931	A	19731204	US 1971-105960	19710112
PRIORITY APPLN. INFO.:			GB 1970-1663	A 19700113

ED Entered STN: 12 May 1984
 AB Hydrates and amine and Cu salt complexes of Cu ketenide Cu₂C₂O, useful as catalysts for the air oxidation of CH₂:CH₂ and MeCH:CH₂, were prepared by treating CH₂:CO with cuprous compds. or by generating cuprous ions at a Cu anode in an electrolyte containing CH₂:CO. Thus, addition of 60 ml Ac₂O followed by 30 ml Et₃N to 4 g CuCl in 100 ml MeCN at 20° precipitated Cu₂C₂O·H₂O. Passing a 1:7 MeCH:CH₂-air mixture through 0.1 g Cu₂C₂O·H₂O suspended on glass wool at 200° converted 1% MeCH:CH₂ to a 1:20 mixture of propylene oxide and Me₂CO. Heating the catalyst to 260° increased the rate of oxidation for a brief time. Mixed Cu-Ag ketenide oxidation catalysts were prepared
 IT 50869-69-7 50869-69-7D, Copper,
 [μ -(oxoethenyldene)]di-, reaction product with cuprous chloride
 (catalysts, for air oxidation of ethylene and propylene)
 RN 50869-69-7 HCAPLUS
 CN Copper, [μ -(oxoethenyldene)]di- (9CI) (CA INDEX NAME)



RN 50869-69-7 HCPLUS
 CN Copper, [μ -(oxoethenylidene)]di- (9CI) (CA INDEX NAME)



IT 624-88-4
 (reaction with ketene)
 RN 624-88-4 HCPLUS
 CN Formic acid, copper(1+) salt (8CI, 9CI) (CA INDEX NAME)



● Cu(I)

IC C07FCD
 CC 29-9 (Organometallic and Organometalloidal Compounds)
 Section cross-reference(s): 23
 IT 463-51-4D, Ethenone, copper complex, reaction product with cuprous chloride 463-51-4D, Ethenone, copper complex, reaction product with silver nitrate 50869-69-7 50869-69-7D, Copper, [μ -(oxoethenylidene)]di-, reaction product with cuprous chloride 50869-69-7D, Copper, [μ -(oxoethenylidene)]di-, reaction product with silver nitrate (catalysts, for air oxidation of ethylene and propylene)
 IT 624-88-4 13395-16-9 25535-55-1 70710-82-6
 (reaction with ketene)

L19 ANSWER 24 OF 26 HCPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1963:445341 HCPLUS Full-text
 DOCUMENT NUMBER: 59:45341
 ORIGINAL REFERENCE NO.: 59:8190e-g
 TITLE: Computer estimation of heat and free energy of formation for simple inorganic compounds
 AUTHOR(S): Wilcox, D. E.; Bromley, L. A.
 CORPORATE SOURCE: Univ. of California, Berkeley
 SOURCE: Journal of Industrial and Engineering Chemistry (Washington, D. C.) (1963), 55(7), 32-9
 CODEN: JIECAD; ISSN: 0095-9014
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 ED Entered STN: 22 Apr 2001
 AB Heats and free energies of formation of inorg. compds. are correlated by equations of the form, $-\Delta H_f = nAB(XB - XA)_2 + nAYA + nBYB + nAB(WA/WB)$, where subscripts A and B refer to the cation and the anion, resp., nAB is the apparent number of single bonds, nA and nB are the nos. of atoms of A and B in the mol., and X, Y, and W are parameters determined from exptl. data. The equation for $-\Delta f_f$ is identical in form. The average deviation of calculated

from exptl. values of $-\Delta H_f$ for 611 compds. was 1.51-1.98 and of $-\Delta F_f$ for 270 compds., 1.57 kcal./mol. Estimated values of $-\Delta H_f$ for 475 compds., with an estimated uncertainty of 15 kcal./mol, are tabulated.

IT 4367-08-2 13381-39-0 29310-24-5
36952-70-2

(Derived from data in the 7th Collective Formula Index (1962-1966))

RN 4367-08-2 HCPLUS

CN Copper cyanide ($\text{Cu}(\text{CN})_2$) (9CI) (CA INDEX NAME)



RN 13381-39-0 HCPLUS

CN Formic acid, titanium(4+) salt (8CI, 9CI) (CA INDEX NAME)



●1/4 Ti(IV)

RN 29310-24-5 HCPLUS

CN Formic acid, palladium(2+) salt (8CI, 9CI) (CA INDEX NAME)



●1/2 Pd(II)

RN 36952-70-2 HCPLUS

CN Formic acid, iron salt (9CI) (CA INDEX NAME)



●x Fe(x)

IT 91864-07-2P, Radium formate
(free energy and heat of formation of, calcn. of)
RN 91864-07-2 HCPLUS
CN Formic acid, radium salt (9CI) (CA INDEX NAME)

C=O—CH—OH●_{1/2} Ra

IT 540-69-2P, Ammonium formate 544-18-3P, Cobalt formate, Co(O₂CH)₂ 556-63-8P, Lithium formate 557-39-1P, Magnesium formate 811-54-1P, Lead formate 992-98-3P, Thallium formate 1111-71-3P, Beryllium formate 2879-85-8P, Tin formate, Sn(O₂CH)₂ 3047-59-4P, Iron formate, Fe(O₂CH)₂ 3349-06-2P, Nickel formate, Ni(O₂CH)₂ 3495-35-0P, Rubidium formate 3495-36-1P, Cesium formate 4464-23-7P, Cadmium formate 84973-21-7P, Mercury formate, HgO₂(CH)₂ (heat of formation of, calcn. of)

RN 540-69-2 HCPLUS

CN Formic acid, ammonium salt (1:1) (CA INDEX NAME)

C=O—CH—OH● NH₃

RN 544-18-3 HCPLUS

CN Formic acid, cobalt(2+) salt (2:1) (CA INDEX NAME)

C=O—CH—OH●_{1/2} Co(II)

RN 556-63-8 HCPLUS

CN Formic acid, lithium salt (1:1) (CA INDEX NAME)

C=O—CH—OH

● Li

RN 557-39-1 HCPLUS

CN Formic acid, magnesium salt (2:1) (CA INDEX NAME)

O=CH-OH●_{1/2} Mg

RN 811-54-1 HCAPLUS
 CN Formic acid, lead(2+) salt (2:1) (CA INDEX NAME)

O=CH-OH●_{1/2} Pb(II)

RN 992-98-3 HCAPLUS
 CN Formic acid, thallium(1+) salt (1:1) (CA INDEX NAME)

O=CH-OH

● Tl(I)

RN 1111-71-3 HCAPLUS
 CN Formic acid, beryllium salt (8CI, 9CI) (CA INDEX NAME)

O=CH-OH●_{1/2} Be

RN 2879-85-8 HCAPLUS
 CN Formic acid, tin(2+) salt (8CI, 9CI) (CA INDEX NAME)

O=CH-OH●_{1/2} Sn(II)

RN 3047-59-4 HCAPLUS
 CN Formic acid, iron(2+) salt (8CI, 9CI) (CA INDEX NAME)

O=CH-OH●_{1/2} Fe(II)

RN 3349-06-2 HCAPLUS
 CN Formic acid, nickel(2+) salt (2:1) (CA INDEX NAME)

O=CH-OH●_{1/2} Ni(II)

RN 3495-35-0 HCAPLUS
 CN Formic acid, rubidium salt (1:1) (CA INDEX NAME)

O=CH-OH

● Rb

RN 3495-36-1 HCAPLUS
 CN Formic acid, cesium salt (1:1) (CA INDEX NAME)

O=CH-OH

● Cs

RN 4464-23-7 HCAPLUS
 CN Formic acid, cadmium salt (8CI, 9CI) (CA INDEX NAME)

O=CH-OH●_{1/2} Cd

RN 84973-21-7 HCPLUS

CN Formic acid, mercury(2+) salt (9CI) (CA INDEX NAME)



●1/2 Hg(II)

CC	7 (Thermodynamics, Thermochemistry, and Thermal Properties)
IT	513-77-9 513-78-0 1303-58-8 1303-61-3 1633-05-2 2140-52-5 3017-60-5 3444-13-1 3486-35-9 4367-08-2 6533-73-9 7492-68-4 7783-21-3 10257-55-3 10290-71-8 10294-28-7 12019-06-6 12024-22-5 12039-11-1 12133-28-7 12133-40-3 12135-77-9 12135-36-3 12135-38-5 13106-47-3 13381-39-0 13451-01-9 13494-91-2 13510-49-1 13537-24-1 13597-64-3 13628-54-1 13767-07-2 13847-12-6 14460-02-7 14677-00-0 14965-99-2 18488-90-9 18807-10-8 19307-28-9 23276-62-2 25105-31-1 25253-54-7 25327-03-1 26506-47-8 29149-89-1 29310-24-5 30737-24-7 30884-45-8 31754-55-9 32702-66-2 36952-70-2 44120-46-9 44122-15-8 50968-00-8 57592-57-1 72296-38-9 73655-04-6 76584-75-3 76868-90-1 79715-66-5 89412-01-1 92226-10-3 98966-74-6 99711-87-2 99770-06-6 99996-22-2 99996-23-3 100408-81-9 100736-93-4 100736-94-5 100737-27-7 101764-28-7 101764-33-4 104813-96-9 107927-26-4 108021-78-9 108064-22-8 108064-26-2
	(Derived from data in the 7th Collective Formula Index (1962-1966))
IT	497-19-8P, Sodium carbonate, Na ₂ CO ₃ 554-13-2P, Lithium carbonate, Li ₂ CO ₃ 1310-65-2P, Lithium hydroxide 1310-73-2P, Sodium hydroxide 1313-59-3P, Sodium oxide 1313-82-2P, Sodium sulfide, Na ₂ S 7116-98-5P, Radium carbonate, RaCO ₃ 7447-41-8P, Lithium chloride 7631-99-4P, Sodium nitrate 7647-15-6P, Sodium bromide 7681-49-4P, Sodium fluoride 7757-82-6P, Sodium sulfate, Na ₂ SO ₄ 7789-24-4P, Lithium fluoride 7791-03-9P, Lithium perchlorate 10025-66-8P, Radium chloride 10031-23-9P, Radium bromide 12057-24-8P, Lithium oxide 12136-58-2P, Lithium sulfide, Li ₂ S 15123-87-2P, Radium selenate 18488-87-4P, Radium nitrite 20610-49-5P, Radium fluoride 20610-52-0P, Radium iodide 23285-36-1P, Radium oxalate, RaC ₂ O ₄ 23320-13-0P, Radium sulfide, RaS 29084-90-0P, Radium perchlorate 72172-65-7P, Radium hydride, RaH ₂ 91864-04-9P, Radium carbonate, Ra(HCO ₃) ₂ 91864-07-2P, Radium formate 92063-64-4P, Radium thiocyanate 92226-08-9P, Radium cyanide 92274-59-4P, Radium acetate 98966-77-9P, Radium sulfate, Ra(HSO ₄) ₂ 98966-78-0P, Radium sulfide, Ra(HS) ₂ 98966-82-6P, Radium chlorate 98966-86-0P, Radium hydroxide 99383-52-5P, Radium peroxide, RaO ₂ 99383-53-6P, Radium silicate, RaSiO ₃
	(free energy and heat of formation of, calcn. of)
IT	71-48-7P, Co(OAc) ₂ 127-09-3P, Sodium acetate 142-72-3P, Magnesium acetate 301-04-2P, Lead acetate, Pb(OAc) ₂ 306-61-6P, Magnesium thiocyanate 373-02-4P, Nickel acetate, Ni(OAc) ₂ 506-87-6P, Ammonium carbonate 516-02-9P, Barium oxalate, BaC ₂ O ₄ 540-69-2P, Ammonium formate 542-84-7P, Cobalt cyanide, Co(CN) ₂ 543-81-7P, Beryllium acetate 543-90-8P, Cadmium acetate 544-18-3P, Cobalt formate, Co(O ₂ CH) ₂ 546-89-4P, Lithium acetate 547-66-0P, Magnesium oxalate 547-68-2P, Zinc oxalate, ZnC ₂ O ₄ 553-91-3P, Lithium oxalate, Li ₂ C ₂ O ₄ 556-63-8P, Lithium formate 556-65-0P, Lithium thiocyanate 557-19-7P, Nickel

cyanide, Ni(CN)2 557-21-1P, Zinc cyanide 557-39-1P,
Magnesium formate 557-42-6P, Zinc thiocyanate 563-67-7P, Rubidium acetate 563-68-8P, Thallium acetate, TlOAc 563-71-3P, Iron carbonate, FeCO3 563-72-4P, Calcium oxalate 584-09-8P, Rubidium carbonate, Rb2CO3 592-05-2P, Lead cyanide, Pb(CN)2 598-62-9P, Manganese carbonate, MnCO3 631-61-8P, Ammonium acetate 638-39-1P, Tin acetate, Sn(OAc)2 640-67-5P, Manganese oxalate, MnC2O4 811-54-1P, Lead formate 814-91-5P, Copper oxalate, CUC2O4 814-93-7P, Lead oxalate, PbC2O4 814-94-8P, Tin oxalate, SnC2O4 814-95-9P, Strontium oxalate, SrC2O4 992-98-3P, Thallium formate 1066-33-7P, Ammonium carbonate, NH4HCO3 1068-63-9P, Cesium oxalate, CsC2O4 1111-71-3P, Beryllium formate
1113-38-8P, Ammonium oxalate, (NH4)2C2O4 1302-81-4P, Aluminum sulfide, Al2S3 1303-52-2P, Gold hydroxide, Au(OH)3 1304-76-3P, Bi2O3 1308-14-1P, Chromium hydroxide, Cr(OH)3 1309-60-0P, Lead oxide, PbO2 1310-61-8P, Potassium sulfide, KHS 1312-43-2P, Indium oxide, In2O3 1314-22-3P, Zinc peroxide, ZnO2 1314-23-4P, Zirconium oxide, ZrO2 1314-32-5P, Thallium oxide, Tl2O3 1315-03-3P, Vanadium sulfide, V2S3 1336-21-6P, Ammonium hydroxide 1344-09-8P, Sodium silicate 1344-28-1P, Aluminum oxide 1345-07-9P, Bismuth sulfide, Bi2S3 1345-13-7P, Cerium oxide, Ce2O3 1762-95-4P, Ammonium thiocyanate 1834-30-6P, Iron acetate, Fe(OAc)3 1948-47-6P, Iron cyanide, Fe(CN)2 2013-23-2P, Mercury sulfate, Hg(HSO4)2 2035-66-7P, Palladium cyanide, Pd(CN)2 2090-64-4P, Magnesium carbonate, Mg(HCO3)2 2092-16-2P, Calcium thiocyanate 2092-17-3P, Barium thiocyanate 2408-36-8P, Lithium cyanide 2879-85-8P , Tin formate, Sn(02CH)2 2949-11-3P, Mercury oxalate, Hg2C2O4 3047-59-4P, Iron formate, Fe(02CH)2 3173-18-0P, Beryllium oxalate, (BeC2O4) 3349-06-2P, Nickel formate, Ni(02CH)2 3375-31-3P, Palladium acetate, Pd(OAc)2 3396-11-0P, Cesium acetate 3495-35-0P, Rubidium formate 3495-36-1P, Cesium formate 3535-84-0P, Thallium thiocyanate, TlSCN 3602-20-8P, Tin thiocyanate, Sn(SCN)2 3879-01-4P, Cesium thiocyanate 3983-19-5P, Calcium bicarbonate 4100-56-5P, Magnesium cyanide 4464-23-7P, Cadmium formate 6010-09-9P, Iron thiocyanate, Fe(SCN)2 6013-77-0P, Iron carbonate, Fe(HCO3)2 6484-52-2P, Ammonium nitrate 7446-10-8P, Lead sulfite, PbSO3 7446-17-5P, Rubidium selenate, Rb2SeO4 7446-21-1P, Strontium selenate, SrSeO4 7446-70-0P, Aluminum chloride 7447-39-4P, Copper chloride, CuCl2 7488-54-2P, Rubidium sulfate, Rb2SO4 7488-55-3P, Tin sulfate, SnSO4 7550-35-8P, Lithium bromide 7580-67-8P, Lithium hydride 7616-83-3P, Mercury perchlorate, Hg(ClO4)2 7647-14-5P, Sodium chloride 7647-17-8P, Cesium chloride 7681-11-0P, Potassium iodide 7681-82-5P, Sodium iodide 7693-27-8P, Magnesium hydride, MgH2 7727-15-3P, Aluminum bromide 7757-79-1P, Potassium nitrate 7758-02-3P, Potassium bromide 7759-01-5P, Lead tungstate(VI), PbWO4 7775-11-3P, Sodium chromate(VI), Na2CrO4 7778-18-9P, Calcium sulfate 7778-74-7P, Potassium perchlorate 7778-80-5P, Potassium sulfate, K2SO4 7779-88-6P, Zinc nitrate 7782-89-0P, Lithium amide 7782-92-5P, Sodium amide 7783-20-2P, Ammonium sulfate 7783-46-2P, Lead fluoride, PbF2 7783-51-9P, Gallium fluoride 7783-52-0P, Indium fluoride, InF3 7783-64-4P, Zirconium fluoride, ZrF4 7784-01-2P, Silver chromate(VI), Ag2CrO4 7784-18-1P, Aluminum fluoride 7784-23-8P, Aluminum iodide 7787-41-9P, Barium selenate, BaSeO4 7787-52-2P, Beryllium hydride, BeH2 7787-58-8P, Bismuth bromide, BiBr3 7787-60-2P, Bismuth chloride, BiCl3 7787-61-3P, Bismuth fluoride, BiF3 7787-64-6P, Bismuth iodide, BiI3 7787-68-0P, Bismuth sulfate, Bi2(SO4)3 7787-69-1P, Cesium bromide 7789-17-5P, Cesium iodide 7789-23-3P, Potassium fluoride, KF 7789-39-1P, Rubidium bromide 7789-40-4P, Thallium bromide, TlBr

7789-41-5P, Calcium bromide 7789-68-6P, Titanium bromide, TiBr₄
 7790-29-6P, Rubidium iodide 7790-46-7P, Platinum iodide, PtI₄
 7790-59-2P, Potassium selenate, K₂SeO₄ 7790-60-5P, Potassium tungstate(VI), K₂WO₄ 7790-69-4P, Lithium nitrate 7790-79-6P,
 Cadmium fluoride 7790-83-2P, Cadmium nitrate 7791-10-8P, Strontium chloride 7791-11-9P, Rubidium chloride 7803-54-5P, Magnesium amide 7803-63-6P, Monoammonium sulfate 10006-28-7P, Potassium silicate, K₂SiO₃ 10010-65-8P, Rubidium oxalate, Rb₂C₂O₄ 10025-82-8P, Indium chloride, InCl₃ 10028-22-5P, Iron sulfate, Fe₂(SO₄)₃ 10045-94-0P,
 Mercury nitrate, Hg(NO₃)₂ 10048-98-3P, Barium phosphate, BaHPO₄ 10099-58-8P, Lanthanum chloride, LaCl₃ 10099-74-8P, Lead nitrate 10099-76-0P, Lead silicate, PbSiO₃ 10101-39-0P, Calcium silicate, CaSiO₃ 10101-53-8P, Chromium sulfate, Cr₂(SO₄)₃ 10101-63-0P, Lead iodide, PbI₂ 10102-05-3P, Palladium nitrate, Pd(NO₃)₂ 10102-24-6P, Lithium silicate, Li₂SiO₃ 10102-45-1P, Thallium nitrate, TlNO₃ 10117-38-1P, Potassium sulfite, K₂SO₃ 10124-43-3P, Cobalt sulfate, CoSO₄ 10137-74-3P, Calcium chloride 10190-55-3P, Lead molybdate(VI), PbMoO₄ 10192-29-7P, Ammonium chlorate 10294-44-7P, Mercury chlorate, HgClO₃ 10294-47-0P, Lead chlorate, Pb(ClO₃)₂ 10294-60-7P, Ammonium selenate, NH₄HSeO₄ 10326-21-3P, Magnesium chloride 10326-29-1P, Cesium selenate, Cs₂SeO₄ 10343-61-0P, Titanium sulfate, Ti₂(SO₄)₃ 10361-43-0P, Bismuth hydroxide, Bi(OH)₃ 10377-51-2P, Lithium iodide 10377-66-9P, Manganese nitrate, Mn(NO₃)₂ 10381-37-0P, Thorium sulfate, Th(SO₄)₂ 10415-75-5P, Mercury nitrate, HgNO₃ 10466-65-6P, Potassium perhenate, KReO₄ 11074-90-1P, Thallium peroxide, Tl₂O₂ 11118-27-7P, Gold chloride 12014-56-1P, Cerium hydroxide, Ce(OH)₄ 12018-22-3P, Chromium sulfide, Cr₂S₃ 12023-99-3P, Gallium hydroxide 12026-77-6P, Titanium hydroxide, Ti(OH)₃ 12027-06-4P, Ammonium iodide 12030-24-9P, Indium sulfide, In₂S₃ 12031-80-0P, Lithium peroxide, Li₂O₂ 12033-33-9P, Molybdenum sulfide, Mo₂S₃ 12035-79-9P, Neptunium oxide, NpO₂ 12036-34-9P, Plutonium oxide, Pu₂O₃ 12038-13-0P, Praseodymium sulfide, Pr₂S₃ 12038-21-0P, Platinum sulfide, PtS₂ 12038-56-1P, Plutonium sulfide, Pu₂S₃ 12039-07-5P, Titanium sulfide, Ti₃S 12039-14-4P, Uranium sulfide, US₂ 12039-15-5P, Zirconium sulfide, Zr₂S₂ 12039-16-6P, Titanium sulfide, Ti₂S₃ 12039-17-7P, Thallium sulfide, Tl₂S₃ 12039-19-9P, Yttrium sulfide, Y₂S₃ 12060-12-7P, Uranium oxide, U₂O₃ 12060-18-3P, Zirconium oxide, Zr₂O₃ 12063-27-3P, Iron sulfide, Fe₂S₃ 12067-22-0P, Samarium sulfide, Sm₂S₃ 12124-97-9P, Ammonium bromide 12124-99-1P, Ammonium sulfide, NH₄S 12125-01-8P, Ammonium fluoride, NH₄F 12125-02-9P, Ammonium chloride 12133-10-7P, Dysprosium sulfide, Dy₂S₃ 12133-95-8P, Cobalt sulfide, Co(HS)₂ 12134-58-6P, Iron sulfide, Fe(HS)₂ 12135-13-6P, Mercury hydroxide, Hg(OH)₂ 12135-15-8P, Mercury sulfide, Hg(HS)₂ 12135-37-4P, Strontium sulfide, Sr(HS)₂ 12135-76-1P, Ammonium sulfide 12137-20-1P, Titanium oxide, TiO₂ 12138-07-7P, Thorium sulfide, Th₂S₂ 12138-09-9P, Tungsten sulfide, WS₂ 12138-13-5P, Uranium sulfide, U₂S₃ 12139-22-9P, Cadmium peroxide, CdO₂ 12159-66-9P, Erbium sulfide, Er₂S₃ 12161-77-2P, Ammonium oxide, (NH₄)₂O 12166-32-4P, Zirconium sulfide, Zr₂S₃ 12211-52-8P, Ammonium cyanide 12281-24-2P, Neptunium sulfide, Np₂S₃ 12298-67-8P, Mercury peroxide, HgO₂ 12323-04-5P, Beryllium peroxide, BeO₂ 13004-83-6P, Mercury carbonate, HgCO₃ 13106-76-8P, Ammonium molybdate(VI), (NH₄)₂MoO₄ 13126-12-0P, Rubidium nitrate 13255-26-0P, Barium silicate, BaSiO₃ 13320-71-3P, Molybdenum chloride, MoCl₄ 13327-32-7P, Beryllium hydroxide 13400-13-0P, Cesium fluoride 13444-96-7P, Palladium fluoride, PdF₂ 13446-48-5P, Ammonium nitrite 13446-57-6P, Molybdenum bromide, MoBr₃ 13446-74-7P, Rubidium fluoride 13446-75-8P, Rubidium hydride 13450-91-4P, Gallium iodide 13451-02-0P, Strontium sulfate, SrSO₃ 13453-24-2P, Gold iodide, AuI₃

(heat of formation of, calcn. of)

IT 13453-30-OP, Thallium chloride, TlClO₃ 13453-34-4P, Thallium cyanide, TlCN 13453-37-7P, Thallium iodide, Tl(I₃) 13453-40-2P, Thallium perchlorate, TlClO₄ 13453-45-7P, Thallium sulfate, TlHSO₄ 13453-46-8P, Thallium sulfite, Tl₂SO₃ 13453-71-9P, Lithium chloride 13453-86-6P, Lithium sulfate, LiHSO₄ 13453-87-7P, Lithium sulfite, Li₂SO₃ 13454-83-6P, Cesium nitrite 13454-84-7P, Cesium perchlorate 13454-94-9P, Cerium sulfate, Ce₂(SO₄)₃ 13454-96-1P, Platinum chloride, PtCl₄ 13455-31-7P, Cobalt perchlorate, Co(ClO₄)₂ 13465-09-3P, Indium bromide, InBr₃ 13465-30-0P, Mercury chlorate, Hg(ClO₃)₂ 13465-94-6P, Barium nitrate 13465-95-7P, Barium perchlorate 13468-91-2P, Lead carbonate, Pb(HCO₃)₂ 13469-98-2P, Yttrium bromide, YBr₃ 13470-04-7P, Strontium molybdate(VI), SrMoO₄ 13470-41-2P, Zinc amide 13477-09-3P, Barium hydride, BaH₂ 13477-19-5P, Cadmium silicate, CdSiO₃ 13477-23-1P, Cadmium sulfite, CdSO₃ 13477-36-6P, Calcium perchlorate 13478-18-7P, Molybdenum chloride, MoCl₃ 13478-49-4P, Erbium sulfate, Er₂(SO₄)₃ 13492-25-6P, Mercury nitrite, HgNO₂ 13510-35-5P, Indium iodide, InI₃ 13510-42-4P, Rubidium perchlorate 13510-71-9P, Yttrium sulfate, Y₂(SO₄)₃ 13520-59-7P, Molybdenum bromide, MoBr₄ 13536-53-3P, Praseodymium bromide, PrBr₃ 13536-79-3P, Lanthanum bromide, LaBr₃ 13536-80-6P, Neodymium bromide, NdBr₃ 13566-03-5P, Palladium sulfate, PdSO₄ 13566-10-4P, Thallium tungstate(VI), Tl₂WO₄ 13568-33-7P, Lithium nitrate 13568-40-6P, Lithium molybdate(VI), Li₂MoO₄ 13568-49-1P, Lithium tungstate(VI), Li₂WO₄ 13568-71-3P, Manganese sulfite, MnSO₃ 13573-11-0P, Magnesium tungstate(VI), MgWO₄ 13587-19-4P, Cesium tungstate(VI), Cs₂WO₄ 13597-44-9P, Zinc sulfite, ZnSO₃ 13597-52-9P, Rubidium tungstate(VI), Rb₂WO₄ 13597-54-1P, Zinc selenate, ZnSeO₄ 13597-56-3P, Zinc tungstate(VI), ZnWO₄ 13597-95-0P, Beryllium perchlorate 13597-99-4P, Beryllium nitrate 13598-65-7P, Ammonium perrhenate, NH₄ReO₄ 13637-61-1P, Zinc perchlorate 13637-76-8P, Lead perchlorate, Pb(ClO₄)₂ 13689-92-4P, Nickel thiocyanate, Ni(SCN)₂ 13693-11-3P, Titanium sulfate, Ti(SO₄)₂ 13701-70-7P, Vanadium sulfate, V₂(SO₄)₃ 13701-91-2P, Lead bromide, PbBr₄ 13708-69-5P, Beryllium amide 13718-22-4P, Rubidium molybdate(VI), Rb₂MoO₄ 13759-87-0P, Samarium bromide, SmBr₃ 13760-37-7P, Cadmium perchlorate 13760-83-3P, Erbium fluoride, ErF₃ 13762-14-6P, Cobalt molybdate(VI), CoMoO₄ 13763-67-2P, Cesium chlorate 13763-69-4P, Thallium hydride, TlH 13768-48-4P, Lithium perrhenate, LiReO₄ 13768-50-8P, Magnesium perrhenate, Mg(ReO₄)₂ 13768-51-9P, Zinc perrhenate, Zn(ReO₄)₂ 13768-52-0P, Barium perrhenate, Ba(ReO₄)₂ 13768-53-1P, Cadmium perrhenate, Cd(ReO₄)₂ 13768-54-2P, Calcium perrhenate, Ca(ReO₄)₂ 13768-55-3P, Strontium perrhenate, Sr(ReO₄)₂ 13770-16-6P, Manganese perchlorate, Mn(ClO₄)₂ 13772-47-9P, Cesium hydride 13814-62-5P, Cadmium selenate, CdSeO₄ 13818-75-2P, Gadolinium bromide, GdBr₃ 13825-25-7P, Rubidium nitrate 13826-63-6P, Thallium nitrite, TlNO₂ 13870-15-0P, Mercury selenate, HgSeO₄ 13870-24-1P, Iron tungstate(VI), FeWO₄ 13912-55-5P, Tin carbonate, SnCO₃ 13932-02-0P, Mercury perchlorate, HgClO₄ 13933-23-8P, Iron perchlorate, Fe(ClO₄)₂ 13966-62-6P, Mercury hydride, HgH 14012-86-3P, Copper perrhenate, Cu(ReO₄)₂ 14012-87-4P, Nickel perrhenate, Ni(ReO₄)₂ 14012-88-5P, Manganese perrhenate, Mn(ReO₄)₂ 14012-90-9P, Cobalt silicate, CoSiO₃ 14013-02-6P, Copper sulfate, CuSO₃ 14013-75-3P, Thallium perrhenate, TlReO₄ 14013-76-4P, Lead perrhenate, Pb(ReO₄)₂ 14013-86-6P, Iron nitrate, Fe(NO₃)₂ 14018-82-7P, Zinc hydride, ZnH₂ 14055-75-5P, Molybdenum iodide, MoI₃ 14055-76-6P, Molybdenum iodide, MoI₄ 14373-91-2P, Dysprosium sulfate, Dy₂(SO₄)₃ 14456-48-5P, Dysprosium bromide, DyBr₃ 14457-87-5P, Cerium bromide, CeBr₃ 14474-33-0P, Scandium iodide, ScI₃ 14475-63-9P, Zirconium hydroxide, Zr(OH)₄

14553-36-7P, Tin tungstate(VI), SnWO₄ 14553-76-5P, Neptunium sulfate, Np(SO₄)₂ 14590-19-3P, Cobalt selenate, CoSeO₄
 14644-61-2P, Zirconium sulfate, Zr(SO₄)₂ 14720-21-9P, Gold fluoride, AuF₃ 14721-21-2P, Copper chlorate, Cu(ClO₃)₂ 14902-94-4P, Beryllium silicate, BeSiO₃ 14984-71-5P, Copper nitrite, Cu(NO₂)₂ 14986-52-8P, Cerium chloride, CeCl₄ 14986-91-5P, Magnesium selenate, MgSeO₄ 15070-34-5P, Magnesium nitrite 15123-62-3P, Rubidium silicate, Rb₂SiO₃ 15192-76-4P, Copper thiocyanate, Cu(SCN)₂ 15498-89-2P, Titanium sulfate, TiSO₄ 15513-59-4P, Mercury selenate, Hg₂SeO₄ 15513-94-7P, Vanadium iodide, VI₃ 15513-95-8P, Neptunium iodide, NpI₄ 15586-77-3P, Cesium silicate, Cs₂SiO₃ 15593-52-9P, Lithium selenate, Li₂SeO₄ 15600-49-4P, Iron iodide, FeI₃ 15600-74-5P, Cerium iodide, CeI₄ 15702-36-0P, Manganese selenate, MnSeO₄ 15773-66-7P, Tin silicate, SnSiO₃ 15785-09-8P, Cerium hydroxide, Ce(OH)₃ 15855-70-6P, Ammonium tungstate(VI), (NH₄)₂WO₄ 16156-13-1P, Mercury sulfate, HgHSO₄ 16222-66-5P, Thallium sulfate, Tl₂(SO₄)₃ 16509-17-4P, Copper silicate, CuSiO₃ 17014-71-0P, Potassium peroxide, K₂O 17108-85-9P, GaCl 17153-98-9P, Beryllium thiocyanate 17237-93-3P, Nickel carbonate, Ni(HCO₃)₂ 17861-62-0P, Nickel nitrite, Ni(NO₂)₂ 18488-84-1P, Beryllium nitrite 18488-91-0P, Iron nitrite, Fe(NO₂)₂ 18488-92-1P, Titanium nitrite, Ti(NO₂)₂ 18488-96-5P, Cobalt nitrite, Co(NO₂)₂ 18496-34-9P, Titanium nitrate, Ti(NO₃)₂ 18541-72-5P, Mercury nitrite, Hg(NO₂)₂ 18608-81-6P, Palladium nitrate, Pd(NO₂)₂ 18624-44-7P, Iron hydroxide, Fe(OH)₂ 18832-76-3P, Cesium sulfite, Cs₂SO₃ 18868-43-4P, Molybdenum oxide, MoO₂ 18897-61-5P, Gallium bromide 19024-61-4P, Potassium percarbonate, KHC₄O₄ 19073-56-4P, Rubidium cyanide 20548-54-3P, Calcium sulfide, CaS 20661-21-6P, Indium hydroxide, In(OH)₃ 21159-32-0P, Cesium cyanide 21192-37-0P, Lead sulfate, Pb(SO₄)₂ 21645-51-2P, Aluminum hydroxide 21908-53-2P, Mercury oxide, HgO 22400-99-3P, Manganese cyanide, Mn(CN)₂ 22750-54-5P, Cadmium chloride 22755-27-7P, Tin nitrate, Sn(NO₃)₂ 22755-43-7P, Thallium amide, TlNH₂ 23299-07-2P, Nickel amide, Ni(NH₂)₂ 23731-23-9P, Copper amide, Cu(NH₂)₂ 25417-81-6P, Barium sulfide, Ba(HS)₂ 25454-04-0P, Beryllium sulfite, BeSO₃ 26258-19-5P, Thallium molybdate(VI), Tl₂MoO₄ 26412-73-7P, Lithium sulfide, LiHS 27911-69-9P, Nickel sulfide, Ni(HS)₂ 28564-29-6P, Uranium hydroxide, U(OH)₄ 29209-99-2P, Thallium silicate, Tl₂SiO₃ 29491-37-0P, Lead hydroxide, Pb(OH)₄ 31083-74-6P, Rubidium sulfide, Rb₂S 33485-98-2P, Iron hydride, FeH₂ 33486-01-0P, Copper hydride, CuH₂ 34781-33-4P, Gallium sulfate 35182-15-1P, Neptunium hydroxide, Np(OH)₄ 35591-43-6P, Mercury molybdate(VI), HgMoO₄ 35667-77-7P, Tin cyanide, Sn(CN)₂ 35869-47-7P, Ammonium silicate, (NH₄)₂SiO₃ 37020-93-2P, Mercury cyanide, HgCN 37913-38-5P, Mercury tungstate(VI), HgWO₄ 38705-19-0P, Mercury tungstate(VI), Hg₂WO₄ 38978-73-3P, Rubidium sulfite 39403-39-9P, Gold oxide 39406-97-8P, Gadolinium sulfide 42765-12-8P, Titanium hydroxide, Ti(OH)₂ 44121-71-3P, Nickel sulfate, Ni(HSO₄)₂ 49788-70-7P, Uranium hydroxide, U(OH)₃ 49788-88-7P, Neptunium hydroxide, Np(OH)₃ 50820-24-1P, Iron sulfite, FeSO₃ 51595-71-2P, Mercury sulfide, Hg₂S 52236-42-7P, Tin sulfite, SnSO₃ 52814-37-6P, Cerium bromide, CeBr₄ 52870-08-3P, Strontium cyanide 53238-24-7P, Gallium sulfide 53408-91-6P, Mercury thiocyanate 54010-68-3P, Manganese carbonate, Mn(HCO₃)₂ 54641-23-5P, Magnesium sulfide, Mg(HS)₂ 55695-92-6P, Mercury hydroxide, HgOH 56531-94-3P, Lead sulfate, Pb(HSO₄)₂ 56897-58-6P, Mercury perrhenate, HgReO₄ 57485-08-2P, Gold bromide 59865-92-8P, Vanadium hydroxide, V(OH)₃ 63314-80-7P, Cobalt perrhenate, Co(ReO₄)₂ 63366-64-3P, Tin hydride, SnH₂ 67035-65-8P, Palladium sulfate, Pd(HSO₄)₂ 67326-48-1P, Beryllium perrhenate, Be(ReO₄)₂ 67485-51-2P, Mercury perrhenate, Hg(ReO₄)₂ 67952-43-6P,

Nickel chlorate 68007-07-8P, Beryllium sulfide, Be(HS)2
 68868-27-9P, Mercury formate, Hg(O2CH) 68938-92-1P, Platinum
 bromide, PtBr4 71141-98-5P, Uranium sulfate, U2(SO4)3 71334-76-4P,
 Cobalt amide, Co(NH2)2 72172-64-6P, Cadmium hydride, CdH2
 72172-67-9P, Mercury hydride, HgH2 75234-59-2P, Thallium oxalate,
 Tl2C2O4 80546-49-2P, Cobalt chloride, Co(ClO3)2
 84973-21-7P, Mercury formate, HgO2(CH)2 85885-66-1P,
 Zirconium hydroxide, Zr(OH)3 86498-29-5P, Iron perhenate, Fe(ReO4)2
 89146-33-8P, Mercury sulfite, Hg2SO3 90889-54-6P, Titanium acetate,
 Ti(OAc)2 91864-02-7P, Titanium carbonate, Ti(HCO3)2 91864-03-8P,
 Tin carbonate, Sn(HCO3)2 91864-05-0P, Palladium carbonate, Pd(HCO3)2
 92226-09-0P, Titanium cyanide, Ti(CN)2 93688-01-8P, Palladium
 carbonate, PdCO3 93688-02-9P, Titanium carbonate, TiCO3
 93936-20-0P, Neptunium sulfide, NpS2 94007-89-3P, Beryllium chloride
 94238-21-8P, Mercury sulfite, HgSO3 99001-66-8P, Iron amide,
 Fe(NH2)2 99654-92-9P, Neptunium oxide, Np2O3 99770-26-0P,
 Plutonium sulfate, Pu2(SO4)3 99770-28-2P, Neptunium sulfate,
 Np2(SO4)3 100408-75-1P, Mercury peroxide, Hg2O2 100408-82-0P, Tin
 amide, Sn(NH2)2 100408-83-1P, Titanium amide, Ti(NH2)2
 100434-87-5P, Mercury amide, Hg(NH2)2 100436-22-4P, Mercury amide,
 HgNH2 101764-35-6P, Lead hydride, PbH2 107630-45-5P, Cobalt
 sulfate, Co(HSO4)2 107630-52-4P, Iron chloride, Fe(ClO3)2
 107927-28-6P, Titanium silicate, TiSiO3
 (heat of formation of, calcn. of)

OS.CITING REF COUNT: 7 THERE ARE 7 CAPLUS RECORDS THAT CITE THIS
 RECORD (7 CITINGS)

L19 ANSWER 25 OF 26 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1952:13767 HCAPLUS Full-text
 DOCUMENT NUMBER: 46:13767
 ORIGINAL REFERENCE NO.: 46:2395f-i,2396a-b
 TITLE: Paramagnetic resonance absorption of microwaves
 AUTHOR(S): Lancaster, Forrest W.; Gordy, Walter
 CORPORATE SOURCE: Duke Univ., Durham, NC
 SOURCE: Journal of Chemical Physics (1951), 19, 1181-91
 CODEN: JCPSA6; ISSN: 0021-9606
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 ED Entered STN: 22 Apr 2001
 AB Paramagnetic resonance absorption in approx. 100 powdered salts containing atoms of the Fe and rare earth groups and organic as well as inorg. radicals, was investigated. The frequencies used ranged from 9000 to 50,000 Mc./s. Exchange interaction, which affects markedly the line widths and shape, was of wide occurrence even in ions separated by large organic radicals. Paramagnetic resonance is a promising new method of investigating the orbital properties of these organic radicals. Frequency, resonant field strength, gyromagnetic ratio, and line width are tabulated for the following compds., which show paramagnetic resonance lines at room temperature: Ce(III) oxalate, Cr(III) hydroxide, nitrate, sulfate, and salicylate, Cr py2(OH)2(H2O)2Cl, [Cr(NH3)5Cl]Cl2, [Cr(NH3)6]Cl3.H2O, [Cr(H2O)4Cl2]Cl, [Cr(NH3)6](NO3)3.H2O, K3Cr(CN)6, [Cr(SCN)2 en2](SCN), Cu(II) benzoate, fluoride, chloride, bromide, formate, lactate, acetate, oxalate, and tartrate, Cu phthalocyanine, Cu derivative of 2,4-pentanedione (I), Cu(NH4)2Cl4, Cu(NH4)2(SO4)2, CuWO4, [CuPy4](NO3)2, Cu derivs. of 2,2-dimethyl-3,5-decanedione and of 1-phenyl-3,5-hexanedione, [Cu(NH3)4]SO4, Fe(III) NH4 citrate, an Fe(III) derivative of I, FeF3, Fe2(SO4)3, Fe(NH4)(SO4)2, GdCl3, Mn(BO2)2, MnCO3, MnCl2, MnSO4, MnO3, NiBr2(NH3)6, a V complex of α,α' -(o-phenylenedinitrilo)di- o-cresol (C20H14N203V), VOC12, and diphenyl(trinitrophenyl)hydrazyl. Paramagnetic substances for which absorption peaks could not be observed at room temperature with magnetic fields up to 15,000 gausses are: 2CuCO3.Cu(OH)2,

Cu(SCN)2, Cu2Fe(CN)6, Cu3(AsO4)2, Cu(BO2)2, Cu(NO2)2.3Cu(OH)2, CuMnO4, CuCr2O7, Cu3(Po4)2, Cu(CN)2, CuO, Cu5, Co(OAc)2, CoCO3, CoCl2, Co(OH)2, Co(NO3)2, CoSO4, a Co complex of salicylaldehyde (Co(C7H5O2)2.2H2O), K2Cr2O7, K2CrO4, Cr2O3, Cr salicylate, Ce2(SO4)3, Ce(SO4)2, a Ce derivative of I, FeCl2, Fe2O3, FeSO4, FeC2O4, Fe(NH4)2(SO4)2, FeCl3, MnO2, Ni2O3, NiO, NiF2, Ni(NO3)2, NiCl2, NiSO4, a Ni derivative of I, Ni(SO3)2.4NH3, Ni(SO4)2.6NH3, Ni(NH4)2(SO4)2, Ni3(Po4)2, K2Ni(SO4)2, La2O3, LaCl3, La(NO3)3, NdCl3, Nd(NO3)3, Pr(NO3)3, PrCl3, SmCl3, Sm(NO3)3, YCl3, and Y2(SO4)3. Evidence was found in Cu acetate for the simultaneous transition of electrons in neighboring ions with the absorption of a single quantum.

IT 544-19-4, Copper formates, Cu(HCO2)2 4367-08-2,

Copper cyanide, Cu(CN)2
(microwave absorption by)

RN 544-19-4 HCAPLUS

CN Formic acid, copper(2+) salt (2:1) (CA INDEX NAME)



RN 4367-08-2 HCAPLUS

CN Copper cyanide (Cu(CN)2) (9CI) (CA INDEX NAME)



CC 3 (Electronic Phenomena and Spectra)

IT 71-48-7, Cobalt acetate, Co(OAc)2 90-02-8, Salicylaldehyde, cobalt complex 139-42-4, Cerium oxalate, Ce2(C2O4)3 142-71-2, Copper acetate, Cu(OAc)2 513-79-1, Cobalt carbonate, CoCO3 516-03-0, Iron oxalate, FeC2O4 533-01-7, Copper benzoate, Cu(OBz)2 544-19-4, Copper formates, Cu(HCO2)2 598-62-9, Manganese carbonate, MnCO3 814-91-5, Copper oxalate, CuC2O4 815-82-7, Copper tartrate, CuC4H4O6 1308-14-1, Chromium hydroxide, Cr(OH)3 1308-38-9, Chromium oxide, Cr2O3 1309-37-1, Iron oxide (Fe2O3) 1312-81-8, Lanthanum oxide, La2O3 1313-99-1, Nickel oxide, NiO 1314-06-3, Nickel oxide, Ni2O3 3946-91-6, o-Cresol, α,α' -(o-phenylenedinitrilo)di-, vanadium complex 4367-08-2, Copper cyanide, Cu(CN)2 7646-79-9, Cobalt chloride, CoCl2 7705-08-0, Iron chloride 7720-78-7, Iron sulfate, FeSO4 7773-01-5, Manganese chloride, MnCl2 7778-50-9, Potassium dichromate 7783-50-8, Iron fluoride, FeF3 7785-87-7, Manganese sulfate, MnSO4 7786-81-4, Nickel sulfate, NiSO4 7789-00-6, Potassium chromate 7789-19-7, Copper fluoride, CuF2 7789-45-9, Copper bromide, CuBr2 7798-23-4, Copper phosphate, Cu3(Po4)2 10024-93-8, Neodymium chloride, NdCl3 10028-18-9, Nickel fluoride, NiF2 10045-95-1, Neodymium nitrate, Nd(NO3)3 10099-58-8, Lanthanum chloride, LaCl3 10099-59-9, Lanthanum nitrate, La(NO3)3 10124-43-3, Cobalt sulfate, CoSO4 10138-52-0, Gadolinium chloride, GdCl3 10141-05-6, Cobalt nitrate, Co(NO3)2 10213-09-9, Vanadium chloride, VOC12 10361-79-2, Praseodymium chloride, PrCl3

10361-80-5, Praseodymium nitrate, Pr(NO₃)₃ 10361-82-7, Samarium chloride, SmCl₃ 10361-83-8, Samarium nitrate, Sm(NO₃)₃ 10361-92-9, Yttrium chloride, YCl₃ 10381-36-9, Nickel phosphate, Ni₃(PO₄)₂ 10402-23-0, Ammonium iron sulfate 10402-23-0, Iron ammonium sulfate 11129-60-5, Manganese oxide 13454-94-9, Cerium sulfate, Ce₂(SO₄)₃ 13510-71-9, Yttrium sulfate, Y₂(SO₄)₃ 13548-38-4, Chromium nitrate, Cr(NO₃)₃ 13587-25-2, Copper ammonium sulfate, (NH₄)₂Cu(SO₄)₂ 13590-82-4, Cerium sulfate, Ce(SO₄)₂ 13601-11-1, Potassium cyanochromate(III) (K₃Cr(CN)₆) 13601-13-3, Copper ferrocyanide, Cu₂Fe(CN)₆ 13675-47-3, Copper dichromate (CuCr₂O₇) 15699-18-0, Ammonium nickel sulfate, (NH₄)₂Ni(SO₄)₂ 16039-52-4, Copper lactate 21041-93-0, Cobalt hydroxide, Co(OH)₂ 25718-61-0, Chromium salicylate 40105-04-2, Manganese borate, Mn(BO₂)₂ 44612-23-9, Copper thiocyanate, Cu(SCN)₂ 52393-50-7, 2,4-Hexanedione, 6-phenyl-, copper derivative 128953-47-9, Phthalocyanine, copper derivative 170954-50-4, 3,5-Decanedione, 2,2-dimethyl-, copper derivative 713542-88-2, Cobalt, compound with salicylaldehyde (microwave absorption by)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L19 ANSWER 26 OF 26 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1949:14430 HCAPLUS Full-text

DOCUMENT NUMBER: 43:14430

ORIGINAL REFERENCE NO.: 43:2829a-i,2830a-c

TITLE: Lattice energies of salts of metals of the subgroups of the periodic system

AUTHOR(S): Yatsimirskii, K. B.

SOURCE: Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1948) 590-8

CODEN: IASKA6; ISSN: 0002-3353

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

ED Entered STN: 22 Apr 2001

AB (1) Wall's (C.A. 33, 4864.3) expression for the energy of formation W of a compound with partly ionic (subscript i), partly covalent (subscript c) bond, written in the form $W = Wi - [1/(1 - a)] (Wc - Wi)$ (where a = coefficient in the wave-function equation $\psi = \psi_c + a\psi_i$), is transformed into $W = Wi - [b^2/(1 - b)] (Wc - Wi)$, where b = $1/(1 + a)$ expresses the fraction of covalent, $(1 - b)$ the fraction of ionic, bond. An analogous equation relates the total, ionic, and covalent lattice energies, U, Ui , and Uc . Of these, Ui is obtained by the equation of Kapustinskii (Zhur. Obrshchei. Khim. 13, 497(1943)) $Ui = 287.2\bar{\Sigma}n.z\bar{l}z^2 [1 - 0.345/(r₁ + r₂)]/(r₁ + r₂)$ where $\bar{\Sigma}n$ = number of ions, z = the ionic charges, r = the ionic radii. Uc is obtained by considering, successively, the energy of sublimation (which can be disregarded), the rupture of the covalent bond in the gaseous mol. MX, with the dissociation energy (according to Pauling) D = $1/2 DM-M + 1/2 DX-X$, and the ionization energy I of M and the electron affinity F of X; this gives $Uc = I + 1/2 DM-M - F + 1/2 DX-X$, and, with the empirical relation $DM-M = 1/8 0$ (Debye's characteristic temperature), and $EM = I + 1/8 0$ [or, in the case of salts MX₂, $EM = I_1 + I_2 + 2 + 1/8 0$, where 1 and 2 refer to 1st and 2nd ionization] and $EX = F - 1/2 DX-X$, $Uc = EM - EX$, and $U = Ui - [b^2/(1 - b)] (EM - 2EX - Ui)$. On the other hand, calcns. of U by the Haber-Born cycle give the semi-empirical relation $b = 0.5 + 0.002 (EM - 2MX - Ui)$; hence, $U = Ui + 250 b^2$. (2) Numerical calcns., using the thermochem. data of Bichowsky and Rossini (The Thermochemistry of the Chemical Substances, 1936, (C.A. 30, 6279.1)) give the following values of U and b, resp.: HgI₂ 595, 0.72; Hg(CN)₂ 641, 0.70; Hg(CNS)₂ 610, 0.67; HgBr₂ 599, 0.64; HgCl₂ 608, 0.60; CuI₂ 628, 0.70; CuBr₂ 635, 0.61; Cu(OH)₂ 744, 0.60; Cu(HCO₃)₂ 686, 0.55; CuCl₂ 647, 0.55;

$\text{Cu}(\text{NO}_3)_2$ 635, 0.56; ZnI_2 604, 0.63; $\text{Zn}(\text{CN})_2$ 657, 0.59; ZnBr_2 616, 0.55; $\text{Zn}(\text{OH})_2$ 720, 0.51; $\text{Zn}(\text{HCO}_2)_2$ 670, 0.49; ZnCl_2 630, 0.49; NiI_2 605, 0.61; NiBr_2 619, 0.52; $\text{Ni}(\text{OH})_2$ 731, 0.51; NiCl_2 633, 0.47; $\text{Ni}(\text{NO}_3)_2$ 627, 0.47; CoI_2 595, 0.60; CoBr_2 609, 0.52; $\text{Co}(\text{OH})_2$ 719, 0.50; CoCl_2 623, 0.46; $\text{Co}(\text{NO}_3)_2$ 610, 0.46; CdI_2 561, 0.58; $\text{Cd}(\text{CN})_2$ 611, 0.57; CdBr_2 573, 0.50; $\text{Cd}(\text{OH})_2$ 676, 0.53; CdCl_2 584, 0.46; FeI_2 584, 0.56; FeBr_2 598, 0.48; $\text{Fe}(\text{OH})_2$ 709, 0.47; FeCl_2 614, 0.42; MnI_2 557, 0.51; MnBr_2 575, 0.43; $\text{Mn}(\text{OH})_2$ 679, 0.44; $\text{Mn}(\text{HCO}_2)_2$ 631, 0.38; MnCl_2 590, 0.38; $\text{Mn}(\text{NO}_3)_2$ 576, 0.38; PbI_2 491, 0.45; $\text{Pb}(\text{CNS})_2$ 513, 0.41; PbBr_2 506, 0.38; $\text{Pb}(\text{OH})_2$ 599, 0.43; $\text{Pb}(\text{HCO}_2)_2$ 554, 0.36; PbCl_2 519, 0.34; $\text{Pb}(\text{NO}_3)_2$ 508, 0.34; PbF_2 574, 0.17. The above values of U agree with those calculated by the Haber-Born cycle within 1-2%, except in the case of FeI_2 , MnI_2 , and PbF_2 where the discrepancy still is less than 3%. Use of the data of Hieber, et al. (C.A. 28, 5324.6) for FeI_2 , rather than those of B. and R., gives somewhat better agreement. Roughly, the tendency to formation of a covalent bond decreases, in the bivalent cation series, in the order Hg , Cu , Zn , Ni , Co , Cd , Fe , Mn , Pb , in the univalent anion series in the order I , CN , CNS , Br , OH , HCO_3 , Cl , NO_3 , F . The tendency to form complex ions with predominant covalent bonding within the complex should decrease in the same order. Covalent bonding is favored by high I , low F , and high r ; from this point of view, Pt^{++} , Pd^{++} , and Hg^{++} should be most prone to covalency.

(3) The following are resp., U values calculated for salts of unknown heat of formation, values of b , and heats of formation calculated by the Haber-Born cycle, the latter with an uncertainty of up to ± 15 kcal./mole: HgF_2 646, 0.41, 96; CuF_2 701, 0.33, 111; ZnF_2 690, 0.27, 164; NiF_2 698, 0.24, 148; CoF_2 689, 0.24, 149; CdF_2 638, 0.27, 151; FeF_2 681, 0.20, 165; MnF_2 658, 0.17, 192; $\text{Cu}(\text{CNS})_2$ 642, 0.63, -59; $\text{Zn}(\text{CNS})_2$ 626, 0.58, -10; $\text{Ni}(\text{CNS})_2$ 627, 0.55, -34; $\text{Co}(\text{CNS})_2$ 616, 0.54, -35; $\text{Cd}(\text{CNS})_2$ 581, 0.53, -17; $\text{Fe}(\text{CNS})_2$ 606, 0.51, -21; $\text{Mn}(\text{CNS})_2$ 580, 0.45, 3; $\text{Cu}(\text{CN})_2$ 677, 0.66, -73; $\text{Ni}(\text{CN})_2$ 659, 0.58, -51; $\text{Co}(\text{CN})_2$ 649, 0.57, -51; $\text{Fe}(\text{CN})_2$ 639, 0.53, -37; $\text{Mn}(\text{CN})_2$ 610, 0.49, -16; $\text{Pb}(\text{CN})_2$ 538, 0.45, -46; $\text{Hg}(\text{HCO}_2)_2$ 647, 0.60, 178; $\text{Ni}(\text{HCO}_2)_2$ 674, 0.47, 205; $\text{Co}(\text{HCO}_2)_2$ 664, 0.46, 205; $\text{Cd}(\text{HCO}_2)_2$ 625, 0.46, 219; $\text{Fe}(\text{HCO}_2)_2$ 654, 0.42, 219; $\text{Hg}(\text{OH})_2$ 702, 0.67, 99; $\text{Hg}(\text{NO}_3)_2$ 596, 0.60, 72; $\text{Zn}(\text{NO}_3)_2$ 616, 0.50, 116; $\text{Cd}(\text{NO}_3)_2$ 573, 0.46, 111; $\text{Fe}(\text{NO}_3)_2$ 601, 0.46, 111. (4) Heats of solution in H_2O (dilution in parentheses) were determined calorimetrically for $\text{Cd}(\text{NO}_3)_2$ (2300-2750) 8450, and $\text{Cd}(\text{CNS})_2$ (6000-8000) -5790 cal. Heats of reaction with 1 N HCl were determined for $\text{Ni}(\text{HCO}_2)_2$, 7540, and $\text{Co}(\text{HCO}_2)_2$, 7670 cal. With the aid of the B. and R. data of the heats of formation of the initial and final products, the following standard heats of formation $-\Delta H^\circ 298$ of the solid salts were calculated: $\text{Co}(\text{HCO}_2)_2$ 209.66, $\text{Ni}(\text{HCO}_2)_2$ 208.48, $\text{Cd}(\text{NO}_3)_2$ 107.6, $\text{Cd}(\text{CNS})_2$ 14.3 kcal. The B. and R. value of 77 for $\text{Cd}(\text{NO}_3)_2$, admittedly doubtful, is thus proved to be erroneous. The exptl. $-\Delta H^\circ 298$ values for the 4 salts agree with the calculated values within 5 kcal. or better, which confirms the correctness of the calcns.

IT 3047-59-4^a, Iron formate, $\text{Fe}(\text{HCO}_2)_2$ 4367-08-2,
Copper cyanide, $\text{Cu}(\text{CN})_2$ 4464-23-7^b, Cadmium formate
84973-21-7^c, Mercury formate, $\text{Hg}(\text{OOCH})_2$
(heat of formation and lattice energy of)
RN 3047-59-4 HCPLUS
CN Formic acid, iron(2+) salt (8CI, 9CI) (CA INDEX NAME)



●1/2 Fe(II)

10/583,103

RN 4367-08-2 HCAPLUS
CN Copper cyanide (Cu(CN)2) (9CI) (CA INDEX NAME)



RN 4464-23-7 HCAPLUS
CN Formic acid, cadmium salt (8CI, 9CI) (CA INDEX NAME)



●_{1/2} Cd

RN 84973-21-7 HCAPLUS
CN Formic acid, mercury(2+) salt (9CI) (CA INDEX NAME)



●_{1/2} Hg(II)

IT 3349-06-2F, Nickel formate, Ni(HCO₂)₂
(heat of formation and reaction with HCl, and lattice energy of)
RN 3349-06-2 HCAPLUS
CN Formic acid, nickel(2+) salt (2:1) (CA INDEX NAME)



●_{1/2} Ni(II)

IT 544-19-4, Copper formates, Cu(HCO₂)₂ 557-41-5,
Zinc formate 811-54-1, Lead formate, Pb(HCC₂)₂
3251-96-5, Manganese formate
(lattice energy of)
RN 544-19-4 HCAPLUS
CN Formic acid, copper(2+) salt (2:1) (CA INDEX NAME)

C=CH-OH●_{1/2} Cu(II)

RN 557-41-5 HCAPLUS
 CN Formic acid, zinc salt (2:1) (CA INDEX NAME)

C=CH-OH●_{1/2} Zn

RN 811-54-1 HCAPLUS
 CN Formic acid, lead(2+) salt (2:1) (CA INDEX NAME)

C=CH-OH●_{1/2} Pb(II)

RN 3251-96-5 HCAPLUS
 CN Formic acid, manganese(2+) salt (2:1) (CA INDEX NAME)

C=CH-OH●_{1/2} Mn(II)

CC 2 (General and Physical Chemistry)
 IT 542-84-7P, Cobalt cyanide (Co(CN)₂) 557-19-7P, Nickel cyanide,
Ni(CN)2 557-42-6P, Zinc thiocyanate 592-05-2P, Lead cyanide,
Pb(CN)2 3017-60-5P, Cobalt thiocyanate, Co(CNS)₂
 3047-59-4P, Iron formate, Fe(HCO₂)₂ 4367-08-2P,
 Copper cyanide, Cu(CN)₂ 4464-23-7P, Cadmium formate
 7779-88-6P, Zinc nitrate 7782-64-1P, Manganese fluoride, MnF₂
 7783-39-3P, Mercury fluoride, HgF₂ 7783-49-5P, Zinc fluoride
 7789-19-7P, Copper fluoride, CuF₂ 7789-28-8P, Iron fluoride, FeF₂
 7790-79-6P, Cadmium fluoride 10026-17-2P, Cobalt fluoride, CoF₂
 10028-18-9P, Nickel fluoride, NiF₂ 10045-94-0P, Mercury nitrate,
Hg(NO3)2 12135-13-6P, Mercury hydroxides, Hg(OH)₂ 13689-92-4P,
 Nickel thiocyanate 14013-86-6P, Iron nitrate, Fe(NO₃)₂
 22400-99-3P, Manganese cyanide, Mn(CN)₂ 25327-03-1P, Manganese
 thiocyanate 44612-23-9P, Copper thiocyanate, Cu(SCN)₂

84973-21-7P, Mercury formate, $\text{Hg}(\text{OOCCH})_2$
 (heat of formation and lattice energy of)
 IT 3349-06-2P, Nickel formate, $\text{Ni}(\text{HCO}_2)_2$
 (heat of formation and reaction with HCl, and lattice energy of)
 IT 542-83-6, Cadmium cyanide ($\text{Cd}(\text{CN})_2$) 544-19-4, Copper
 formates, $\text{Cu}(\text{HCO}_2)_2$ 557-21-1, Zinc cyanide 557-41-5,
 Zinc formate 592-04-1, Mercury cyanide, $\text{Hg}(\text{CN})_2$ 592-85-8, Mercury
 thiocyanate, $\text{Hg}(\text{SCN})_2$ 592-87-0, Lead thiocyanate, $\text{Pb}(\text{SCN})_2$
 811-54-1, Lead formate, $\text{Pb}(\text{HCO}_2)_2$ 3251-23-8, Copper nitrate
 3251-96-5, Manganese formate 7447-39-4, Copper chloride,
 CuCl_2 7487-94-7, Mercury chloride, HgCl_2 7646-79-9, Cobalt
 chloride, CoCl_2 7646-85-7, Zinc chloride 7699-45-8, Zinc bromide
 7758-94-3, Iron chloride, FeCl_2 7758-95-4, Lead chloride, PbCl_2
 7773-01-5, Manganese chloride, MnCl_2 7783-46-2, Lead fluoride, PbF_2
 7783-86-0, Iron iodide, FeI_2 7789-42-6, Cadmium bromide 7789-43-7,
 Cobalt bromide, CoBr_2 7789-45-9, Copper bromide, CuBr_2 7789-46-0,
 Iron bromide, FeBr_2 7789-47-1, HgBr_2 7790-80-9, Cadmium iodide
 10031-22-8, Lead bromide, PbBr_2 10099-74-8, Lead nitrate, $\text{Pb(NO}_3)_2$
 10108-64-2, Cadmium chloride 10139-47-6, Zinc iodide 10141-05-6,
 Cobalt nitrate, $\text{Co(NO}_3)_2$ 10377-66-9, Manganese nitrate, $\text{Mn(NO}_3)_2$
 12054-48-7, Nickel hydroxide, Ni(OH)_2 13138-45-9, Nickel nitrate,
 $\text{Ni}(\text{NO}_3)_2$ 13446-03-2, Manganese bromide, MnBr_2 13462-88-9, Nickel
 bromide, NiBr_2 13462-90-3, Nickel iodide, NiI_2 13767-71-0, Copper
 iodides, CuI_2 15238-00-3, Cobalt iodide, CoI_2 18624-44-7, Iron
 hydroxide, Fe(OH)_2 18933-05-6, Manganese hydroxide, Mn(OH)_2
 19783-14-3, Lead hydroxide, Pb(OH)_2 20427-58-1, Zinc hydroxide
 20427-59-2, Copper hydroxide, Cu(OH)_2 21041-93-0, Cobalt hydroxide,
 Co(OH)_2 21041-95-2, Cadmium hydroxide
 (lattice energy of)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
 RECORD (1 CITINGS)

=> d que 131
L2 40 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON (116-17-6/BI OR
121-45-9/BI OR 122-52-1/BI OR 2769-64-4/BI OR 370-69-4/BI
OR 4125-25-1/BI OR 554-70-1/BI OR 594-09-2/BI OR 598-45-8/B
I OR 603-35-0/BI OR 624-88-4/BI OR 64-18-6/BI OR 6476-36-4/
BI OR 7188-38-7/BI OR 7440-50-8/BI OR 7650-88-6/BI OR
7758-89-6/BI OR 855516-69-7/BI OR 855516-71-1/BI OR
855516-73-3/BI OR 855516-75-5/BI OR 855516-77-7/BI OR
855516-79-9/BI OR 855516-81-3/BI OR 855516-83-5/BI OR
855516-85-7/BI OR 855516-87-9/BI OR 855516-89-1/BI OR
855516-91-5/BI OR 855516-93-7/BI OR 855516-95-9/BI OR
855516-97-1/BI OR 855516-99-3/BI OR 855517-00-9/BI OR
855517-02-1/BI OR 855517-04-3/BI OR 855517-06-5/BI OR
855517-08-7/BI OR 931-53-3/BI OR 998-40-3/BI)
L4 STR



VAR G1=3/5/7/9/10
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 12

STEREO ATTRIBUTES: NONE
L6 10858 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON 64-18-6/CRN
L7 4228 SEA FILE=REGISTRY SSS FUL L4
L11 5829 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L7
L12 15157 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L6
L13 27 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L11 AND L12
L14 STR

COOH 1

NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 1

STEREO ATTRIBUTES: NONE
L16 27 SEA FILE=REGISTRY SUB=L7 SSS FUL L14
L18 9 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L16
L19 26 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L13 NOT L18

L20 24 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L2 AND CU/ELS
 L21 16 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L2 NOT L20
 L22 15 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L21 NOT TRIPHEN?

L23 1 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON COPPER/CN
 L25 1 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON 64-18-6/RN
 L26 14 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L22 NOT L25
 L27 624162 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L23
 L28 20431 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L26
 L29 43386 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L25
 L30 9 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L27 AND L28 AND
 (L29 OR L6)
 L31 8 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L30 NOT (L18 OR
 L19)

=> d 131 1-8 ibib ed abs hitstr hitind

L31 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2009:208968 HCAPLUS Full-text
 TITLE: Product class 5: hydroxylamines
 AUTHOR(S): Geffken, D.; Koellner, M. A.
 CORPORATE SOURCE: Institut fuer Pharmazie, Universitaet Hamburg,
 Hamburg, 20146, Germany
 SOURCE: Science of Synthesis (2009), Volume Date 2008,
 40b, 937-1082
 CODEN: SSCYJ9
 PUBLISHER: Georg Thieme Verlag
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 20 Feb 2009
 AB Unavailable
 IT INDEXING IN PROGRESS
 IT 64-18-6 7440-50-8)
 RN 64-18-6 HCAPLUS
 CN Formic acid (CA INDEX NAME)



RN 7440-50-8 HCAPLUS
 CN Copper (CA INDEX NAME)

Cu

IT 122-52-1)
 RN 122-52-1 HCAPLUS
 CN Phosphorous acid, triethyl ester (CA INDEX NAME)

OEt
 EtO—P—OEt

CC	(Benzene, Its Derivatives, and Condensed Benzenoid Compounds)									
IT	57-13-6	60-34-4	64-18-6	68-05-3	74-89-5	96-10-6				
	97-94-9	100-63-0	104-15-4	108-01-0	108-98-5	141-43-5				
	429-41-4	524-38-9	544-97-8	557-20-0	603-35-0	617-86-7				
	688-73-3	695-64-7	733-44-8	766-77-8	775-12-2	1309-60-0				
	1314-15-4	1643-19-2	1795-31-9	2950-43-8	3030-47-5	4143-61-7				
	5137-55-3	5518-52-5	6674-22-2	7087-68-5	7429-90-5	7440-23-5				
	7440-56-8	7440-66-6	7487-94-7	7646-79-9	7693-26-7					
	7699-45-8	7761-88-8	7772-99-8	7773-03-7	7789-48-2	7790-86-5				
	7791-03-9	7803-49-8	10035-10-6	10599-90-3	12135-22-7					
	13283-31-3	20703-41-7	22737-36-6	32248-43-4	56741-77-6					
	74087-85-7	81408-53-9	81408-56-2	85006-25-3	98327-87-8					
	153305-67-0	325477-93-8	862421-89-4	939987-56-1						
IT	51-75-2	60-12-8	60-29-7	64-04-0	64-67-5	65-64-5	67-62-9			
	67-64-1	74-87-3	75-00-3	75-03-6	75-07-0	75-16-1	75-17-2			
	75-21-8	75-30-9	75-65-0	75-85-4	77-78-1	78-77-3	79-08-3			
	79-09-4	79-11-8	79-31-2	80-58-0	91-00-9	94-36-0	95-14-7			
	95-77-2	96-09-3	96-10-6	96-33-3	98-52-2	98-55-5	98-59-9			
	98-80-6	98-83-9	98-86-2	99-61-6	100-11-8	100-39-0	100-44-7			
	100-46-9	100-51-6	100-52-7	100-58-3	100-59-4	100-64-1				
	100-86-7	103-05-9	103-63-9	105-36-2	106-89-8	106-92-3				
	106-93-4	106-95-6	106-96-7	107-05-1	107-14-2	107-22-2				
	107-40-4	107-92-6	107-99-3	108-03-2	108-88-3	108-93-0				
	108-94-1	108-95-2	109-05-7	109-53-5	109-54-6	109-64-8				
	109-65-9	109-97-7	110-02-1	110-52-1	110-83-8	110-87-2				
	110-89-4	110-91-8	111-24-0	111-34-2	111-78-4	111-83-1				
	111-92-2	112-89-0	115-11-7	115-19-5	116-11-0	120-72-9				
	122-52-1	122-60-1	122-97-4	123-72-8	123-75-1					
	124-63-0	127-06-0	127-07-1	140-29-4	142-29-0	143-15-7				
	144-62-7	280-57-9	329-79-3	333-27-7	334-99-6	345-35-7				
	352-13-6	359-63-7	364-81-8	373-52-4	421-06-7	431-40-3				
	456-42-8	463-49-0	495-18-1	500-22-1	513-35-9	513-48-4				
	524-38-9	534-22-5	535-11-5	536-74-3	540-88-5	541-59-3				
	544-97-8	556-52-5	557-20-0	558-17-8	563-47-3	563-79-1				
	565-74-2	574-66-3	574-98-1	584-07-6	585-71-7	588-95-4				
	589-10-6	589-17-3	589-41-3	590-17-0	590-18-1	590-67-0				
	590-86-3	591-50-4	591-51-5	591-87-7	593-77-1	594-19-4				
	594-70-7	598-30-1	598-72-1	600-00-0	611-17-6	614-45-9				
	614-47-1	616-05-7	616-47-0	618-36-0	620-13-3	621-07-8				
	622-30-0	622-31-1	622-33-3	622-95-7	624-75-9	624-86-2				
	626-62-0	626-87-9	627-41-8	628-91-1	628-92-2	630-19-3				
	683-60-3	689-98-5	690-08-4	690-37-9	693-02-7	693-04-9				
	719-89-1	762-49-2	764-47-6	764-48-7	765-43-5	768-66-1				
	768-90-1	768-93-4	768-94-5	768-95-6	776-74-9	817-87-8				
	846-93-5	873-66-5	917-57-7	917-95-3	925-90-6	927-77-5				
	930-88-1	931-51-1	931-88-4	933-11-9	936-98-1	939-26-4				
	941-69-5	954-81-4	1002-13-7	1066-54-2	1068-55-9	1117-97-1				
	1118-02-1	1120-71-4	1122-60-7	1122-91-4	1184-78-7	1188-63-2				
	1192-06-9	1192-28-5	1445-91-6	1450-58-4	1453-52-7	1462-03-9				
	1485-74-1	1504-58-1	1556-18-9	1576-39-2	1589-82-8	1594-94-1				
	1631-25-0	1633-83-6	1643-20-5	1663-39-4	1730-25-2	1803-98-1				
	1826-67-1	1912-32-9	1914-20-1	1914-21-2	2038-57-5	2043-61-0				
	2186-24-5	2211-64-5								

REFERENCE COUNT: 787 THERE ARE 787 CITED REFERENCES AVAILABLE FOR

THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L31 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2009:191857 HCAPLUS Full-text
 TITLE: Synthesis of alkyl- and cycloalkylamines by
 rearrangement
 AUTHOR(S): Purchase, R.; Sainsbury, M.
 CORPORATE SOURCE: Department of Chemistry and Biochemistry,
 University of Sussex, Falmer Brighton, BN1 9QJ, UK
 SOURCE: Science of Synthesis (2009), Volume Date 2008,
 40a, 365-418
 CODEN: SSCYJ9
 PUBLISHER: Georg Thieme Verlag
 DOCUMENT TYPE: Journal; General Review
 LANGUAGE: English
 ED Entered STN: 18 Feb 2009
 AB A review of methods to prepare alkyl- and cycloalkylamines by rearrangement.
 IT INDEXING IN PROGRESS
 IT 998-40-3 7440-50-8, Copper
 (review preparation of alkyl/cycloalkylamines via rearrangement)
 RN 998-40-3 HCAPLUS
 CN Phosphine, tributyl- (CA INDEX NAME)



RN 7440-50-8 HCAPLUS
 CN Copper (CA INDEX NAME)

Cu

IT 64-18-6, Formic acid
 (review preparation of alkyl/cycloalkylamines via rearrangement)
 RN 64-18-6 HCAPLUS
 CN Formic acid (CA INDEX NAME)



CC 21-0 (General Organic Chemistry)
 IT 71-91-0 75-12-7, Formamide 75-56-9 98-59-9 109-02-4
 110-91-8, Morpholine 128-08-5 144-62-7, Ethanedioic acid
 507-40-4 536-80-1 538-75-0 541-41-3 585-48-8 591-51-5
 603-35-0 998-40-3 1122-58-3 1643-19-2 3240-34-4
 4648-54-8 6674-22-2 7440-50-8, Copper 7486-26-2
 7647-15-6, Sodium bromide (NaBr) 7681-52-9 7693-26-7, Potassium
 hydride (KH) 7697-37-2, Nitric acid 7782-79-8, Hydrazoic acid

7790-28-5 10049-08-8, Ruthenium chloride (RuCl₃) 10294-33-4
 17455-13-9, 1,4,7,10,13,16-Hexaoxacyclooctadecane 24608-52-4
 26386-88-9 81408-53-9 81408-56-2 325477-93-8, Potassate (K)
 337913-25-4 871024-86-1
 (review preparation of alkyl/cycloalkylamines via rearrangement)
 IT 55-21-0, Benzamide 60-35-5, Acetamide 62-23-7 64-18-6,
 Formic acid 79-05-0, Propanamide 90-26-6 90-27-7 98-09-9,
 Benzenesulfonyl chloride 98-88-4, Benzoyl chloride 98-92-0,
 3-Pyridinecarboxamide 99-94-5 100-09-4 100-65-2 100-94-7
 101-41-7 102-93-2, Benzenepropanamide 103-80-0, Benzeneacetyl
 chloride 103-81-1, Benzeneacetamide 103-83-3 107-18-6,
 2-Propen-1-ol 108-24-7 353-85-5 501-52-0, Benzenepropanoic acid
 501-53-1 503-74-2 541-35-5, Butanamide 545-06-2 579-11-3
 586-76-5 619-55-6 619-56-7 619-65-8 619-80-7 623-73-4
 626-97-1, Pentanamide 627-37-2 627-63-4 628-02-4, Hexanamide
 628-62-6, Heptanamide 629-01-6, Octanamide 638-58-4,
 Tetradeccanamide 754-10-9 828-51-3 832-80-4 926-04-5
 1120-07-6, Nonanamide 1120-16-7, Dodecanamide 1122-56-1,
 Cyclohexanecarboxamide 1125-70-8 1459-39-8,
 Cycloheptanecarboxamide 1461-97-8 1503-98-6,
 Cyclobutanecarboxamide 1521-95-5 2270-20-4, Benzenepentanoic acid
 2650-67-1 2788-23-0 2916-68-9 3061-75-4, Docosanamide
 3217-94-5, Cyclopentanecarboxamide 3282-32-4 3424-93-9 3471-10-1
 4303-70-2 4407-36-7 4422-95-1, 1,3,5-Benzenetricarbonyl
 trichloride 4525-46-6 4668-37-5 4976-88-9 5256-74-6
 5511-18-2, Tricyclo[3.3.1.13,7]decane-1-carboxamide 5813-89-8,
 2-Thiophenecarboxamide 5824-40-8 6083-47-2 6092-85-9 6321-12-6
 6343-93-7 7148-06-3 13512-57-7 20094-91-1 20225-24-5
 24424-99-5 27126-76-7 29745-44-6, 2-Pyridinecarbonyl chloride
 33229-89-9 51479-70-0 51479-75-5 54221-37-3 57736-10-4
 59874-79-2 61543-21-3 62004-76-6 63383-46-0 66475-89-6
 72443-52-8 84642-54-6 88423-10-3 88518-80-3 88798-15-6
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 104808-41-5 111267-98-2 111268-02-1 111268-03-2 111290-73-4
 116905-72-7 116905-74-9 118087-36-8 118087-38-0 118087-41-5
 140382-00-9 151052-24-3 151052-25-4 152491-92-4 154674-50-7
 159050-40-5 159050-42-7 159050-49-4 159050-51-8 159050-53-0
 160563-88-2 160563-89-3 160563-90-6 160563-91-7 160563-92-8
 162089-63-6 174532-76-4 177171-56-1 177259-75-5 183543-40-0
 187940-17-6 188570-07-2 188570-09-4 188570-14-1 199917-92-5
 201792-91-8 219844-41-4 301180-41-6 301180-49-4 301180-51-8
 326478-81-3 367252-61-7 445411-74-5 496881-80-2 510730-60-6
 510730-61-7 510730-62-8 510730-63-9 611182-32-2 866404-15-1
 908150-30-1 908150-38-9 945990-51-2 945990-52-3 945990-53-4
 945990-54-5 949890-69-1 1033726-47-4
 (review preparation of alkyl/cycloalkylamines via rearrangement)

REFERENCE COUNT: 284 THERE ARE 284 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L31 ANSWER 3 OF 8 HCPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2005:181782 HCPLUS [Full-text](#)
 DOCUMENT NUMBER: 142:282594
 TITLE: Fuel compositions employing catalyst combustion
 structure
 INVENTOR(S): Orr, William C.
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 65 pp., Cont.-in-part of
 U.S. Ser. No. 986,891.

CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 6
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20050044778	A1	20050303	US 2003-722127	20031124
US 6652608	B1	20031125	US 1997-986891	19971208
PRIORITY APPLN. INFO.:				
			US 1997-986891	A2 19971208
			US 1994-205945	B2 19940302
			US 1996-763696	B2 19961209

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ED Entered STN: 04 Mar 2005
 AB Metallic vapor phase fuel compns. relating to a broad spectrum of pollution reducing, improved combustion performance, and enhanced stability fuel compns. for use in jet, aviation, turbine, diesel, gasoline, and other combustion applications include co-combustion agents preferably including trimethoxymethylsilane.
 IT 116-17-6, Triisopropyl phosphite 121-45-9,
 Trimethyl phosphite 122-52-1, Triethyl phosphite
 554-70-1, Triethylphosphine 7440-50-8D, Copper,
 compds.
 (fuel compns. employing oxygenate additives and catalyst combustion structures)
 RN 116-17-6 HCPLUS
 CN Phosphorous acid, tris(1-methylethyl) ester (CA INDEX NAME)



RN 121-45-9 HCPLUS
 CN Phosphorous acid, trimethyl ester (CA INDEX NAME)



RN 122-52-1 HCPLUS
 CN Phosphorous acid, triethyl ester (CA INDEX NAME)



RN 554-70-1 HCAPLUS
 CN Phosphine, triethyl- (CA INDEX NAME)



RN 7440-50-8 HCAPLUS
 CN Copper (CA INDEX NAME)

Cu

IT 64-18-6D, Formic acid, derivs. and alkyl esters
 590-29-4, Potassium formate
 (fuel compns. employing oxygenate additives and catalyst combustion
 structures)
 RN 64-18-6 HCAPLUS
 CN Formic acid (CA INDEX NAME)



RN 590-29-4 HCAPLUS
 CN Formic acid, potassium salt (1:1) (CA INDEX NAME)



● K

IC ICM C10L001-28
 ICS C10L001-24; C10L001-18; C10L001-12; C10L001-26
 INCL 044320000; 044435000; 044378000; 044388000; 044385000; 044444000;
 044443000
 CC 51-7 (Fossil Fuels, Derivatives, and Related Products)
 IT 64-19-7, Acetic acid, uses 64-19-7D, Acetic acid, alkyl and
 C3-C8-hydroxyalkyl esters, salts, esters, and other derivs. 75-76-3,
 Tetramethylsilane 77-49-6, 2-Methyl-2-nitro-1,3-propanediol
 78-09-1, Tetraethoxymethane 78-10-4, Tetraethoxysilane 78-26-2,
 2-Methyl-2-propyl-1,3-propanediol 78-38-6, Diethyl ethylphosphonate
 78-40-0, Triethyl phosphate 78-62-6, Diethoxydimethylsilane
 79-14-1D, Hydroxyacetic acid, alkyl esters 79-20-9, Methyl acetate
 96-35-5, Methyl hydroxyacetate 100-67-4, Potassium phenoxide
 101-02-0 102-09-0, Diphenyl carbonate 102-85-2, Tributyl phosphite
 105-54-4, Ethyl butanoate 105-58-8, Diethyl carbonate 107-46-0,

Hexamethyldisiloxane 107-51-7, Octamethyltrisiloxane 108-24-7
 108-95-2, Phenol, uses 109-78-4, Hydracyronitrile 109-87-5,
 Methylal 110-49-6, 2-Methoxyethyl acetate 111-15-9, 2-Ethoxyethyl
 acetate 115-80-0, 1,1,1-Triethoxypropane 116-17-6,
 Triisopropyl phosphite 121-45-9, Trimethyl phosphite
 122-52-1, Triethyl phosphite 123-22-8 126-68-1 126-73-8,
 Tributyl phosphate, uses 127-08-2, Potassium acetate 138-84-1,
 Potassium p-aminobenzoate 149-73-5, Trimethyl orthoformate
 298-12-4, Oxoacetic acid 300-85-6, 3-Hydroxybutanoic acid 461-35-8
 462-95-3, Ethylal 463-84-3D, Orthocarbonic acid, tetraalkyl ethers
 471-47-6, Aminooxacetic acid 471-47-6D, Aminooxacetic acid,
 hydrazine derivative 509-14-8, Tetranitromethane 512-56-1, Trimethyl
 phosphate 513-08-6, Tripropyl phosphate 515-96-8 541-05-9
 541-50-4, Acetoacetic acid, uses 542-52-9, Dibutyl carbonate
 554-70-1, Triethylphosphine 557-17-5, Methyl propyl ether
 558-43-0, 2-Methyl-1,2-propanediol 582-25-2, Potassium benzoate
 594-70-7, 2-Methyl-2-nitropropane 597-50-2, Triethylphosphine oxide
 597-72-8, Tetrapropoxymethane 598-02-7, Diethyl phosphate
 598-53-8, Isopropyl methyl ether 600-15-7, 2-Hydroxybutanoic acid
 616-38-6, Dimethyl carbonate 616-45-5, 2-Pyrrolidinone 623-42-7,
 Methyl butanoate 623-50-7, Ethyl hydroxyacetate 623-53-0,
 Ethylmethyl carbonate 623-86-9 623-96-1, Dipropyl carbonate
 625-44-5, Isobutyl methyl ether 625-45-6, Methoxyacetic acid
 625-74-1, 2-Methyl-1-nitropropane 627-03-2, Ethoxyacetic acid
 627-08-7 628-28-4, Butyl methyl ether 628-32-0, Ethyl propyl ether
 631-36-7, Tetraethylsilane 631-61-8, Ammonium acetate 637-92-3
 676-96-0, Trimethylphosphine oxide 681-06-1, O,O-Dimethyl
 Methylphosphonothioate 681-84-5, Tetramethoxysilane 682-01-9,
 Tetrapropoxysilane 683-08-9, Diethyl methyl phosphonate 756-79-6,
 Dimethyl methyl phosphonate 762-04-9, Diethyl phosphite 770-09-2,
 Benzyltrimethylsilane 791-31-1, Triphenylsilanol 813-76-3,
 Diethylphosphinic acid 813-78-5, Dimethyl phosphate 814-49-3,
 Diethyl chlorophosphate 865-33-8, Potassium methoxide 865-47-4
 868-85-9, Dimethyl phosphite 877-24-7, Potassium hydrogen phthalate
 917-58-8, Potassium ethoxide 919-30-2, 3-Aminopropyltrithoxysilane
 919-94-8, tert-Amyl ethyl ether 923-99-9, Tripropyl phosphite
 924-44-7 928-04-1, Monopotassium acetylenedicarboxylate 947-42-2
 994-05-8 994-79-6, Tetrabutylsilane 999-97-3,
 1,1,1,3,3,3-Hexamethyldisilazane 1009-93-4,
 2,2,,4,4,6,6-Hexamethylcyclotrisilazane 1066-53-1, Methyl
 methylphosphonate 1112-39-6, Dimethyldimethoxysilane 1115-63-5,
 L-Aspartic acid monopotassium salt 1185-55-3, Trimethoxymethylsilane
 1445-45-0, Trimethyl orthoacetate 1760-24-3,
 N-Aminoethyl-3-aminopropyltrimethoxysilane 1809-19-4, Dibutyl
 phosphite 1809-21-8, Dipropyl phosphite 1825-62-3,
 Ethoxytrimethylsilane 1832-53-7, Phosphonic acid, methyl ethyl ester
 1850-14-2, Tetramethoxymethane 2031-67-6, Triethoxymethylsilane
 2224-33-1, Vinyltris[(2-butylidene)aminoxy]silane 2524-09-6
 2568-91-4 2768-02-7, Vinyltrimethoxysilane 3049-24-9, Triphenyl
 phosphonate 3141-12-6, Ethyl arsenite 3283-12-3,
 Dimethylphosphinic acid 3385-94-2, Hexamethyldisilthiane
 3429-55-8, Tetraisopropylsilane 3429-67-2, Tetraisobutylsilane
 3999-70-0, Potassium butoxide 4219-46-9, 2-Hydroxyethyl butyrate
 4382-76-7, Methoxymethyl acetate 4447-60-3 4721-34-0,
 Isobutylphosphonic acid 4775-09-1 4851-64-3 4923-84-6
 5021-93-2, Diethoxydiethylsilane 5405-41-4, Ethyl 3-Hydroxybutanoate
 6163-75-3 6831-82-9, Potassium isopropoxide 7320-34-5, Potassium
 pyrophosphate 7429-90-5D, Aluminum, compds. 7429-91-6D,
 Dysprosium, compds. 7439-88-5D, Iridium, compds. 7439-89-6D, Iron,
 compds. 7439-91-0D, Lanthanum, compds. 7439-93-2D, Lithium,

compds. 7439-94-3D, Lutetium, compds. 7439-95-4D, Magnesium, compds. 7439-96-5D, Manganese, compds. 7439-97-6D, Mercury, compds. 7439-98-7D, Molybdenum, compds. 7439-99-8D, Neptunium, compds. 7440-00-8D, Neodymium, compds. 7440-02-0D, Nickel, compds. 7440-03-1D, Niobium, compds. 7440-04-2D, Osmium, compds. 7440-05-3D, Palladium, compds. 7440-06-4D, Platinum, compds. 7440-07-5D, Plutonium, compds. 7440-08-6D, Polonium, compds. 7440-09-7D, Potassium, compds. 7440-10-0D, Praseodymium, compds. 7440-12-2D, Promethium, compds. 7440-13-3D, Protactinium, compds. 7440-14-4D, Radium, compds. 7440-15-5D, Rhenium, compds. 7440-16-6D, Rhodium, compds. 7440-17-7D, Rubidium, compds. 7440-18-8D, Ruthenium, compds. 7440-19-9D, Samarium, compds. 7440-20-2D, Scandium, compds. 7440-21-3D, Silicon, compds. 7440-22-4D, Silver, compds. 7440-23-5D, Sodium, compds. 7440-24-6D, Strontium, compds. 7440-25-7D, Tantalum, compds. 7440-27-9D, Terbium, compds. 7440-29-1D, Thorium, compds. 7440-30-4D, Thulium, compds. 7440-31-5D, Tin, compds. 7440-32-6D, Titanium, compds. 7440-33-7D, Tungsten, compds. 7440-34-8D, Actinium, compds. 7440-35-9D, Americium, compds. 7440-36-0D, Antimony, compds. 7440-38-2D, Arsenic, compds. 7440-39-3D, Barium, compds. 7440-40-6D, Berkelium, compds. 7440-41-7D, Beryllium, compds. 7440-42-8D, Boron, compds. 7440-43-9D, Cadmium, compds. 7440-45-1D, Cerium, compds. 7440-46-2D, Cesium, compds. 7440-47-3D, Chromium, compds. 7440-48-4D, Cobalt, compds. 7440-50-8D, Copper, compds. 7440-51-9D, Curium, compds. 7440-52-0D, Erbium, compds. 7440-53-1D, Europium, compds. 7440-54-2D, Gadolinium, compds. 7440-55-3D, Gallium, compds. 7440-56-4D, Germanium, compds. 7440-57-5D, Gold, compds. 7440-58-6D, Hafnium, compds. 7440-60-0D, Holmium, compds. 7440-61-1D, Uranium, compds. 7440-62-2D, Vanadium, compds. 7440-64-4D, Ytterbium, compds. 7440-65-5D, Yttrium, compds. 7440-66-6D, Zinc, compds. 7440-67-7D, Zirconium, compds. 7440-68-8D, Astatine, compds. 7440-69-9D, Bismuth, compds. 7440-70-2D, Calcium, compds. 7440-71-3D, Californium, compds. 7440-73-5D, Francium, compds. 7440-74-6D, Indium, compds. 7447-40-7, Potassium chloride, uses 7553-56-2D, Iodine, compds. 7646-93-7, Potassium hydrogen sulfate 7723-14-0D, Phosphorus, compds. 7726-95-6, Bromine, uses 7726-95-6D, Bromine, compds. 7778-77-0, Potassium dihydrogen phosphate 7782-49-2D, Selenium, compds. 7789-92-6, 1,1,3-Triethoxypropane 10519-96-7, Potassium trimethylsilanolate 13086-84-5, Di-*tert*-butyl phosphite 13494-80-9D, Tellurium, compds. 13598-36-2D, Phosphonic acid, derivs. 13746-66-2, Potassium hexacyanoferrate (III) 13820-09-2, Trimethyl orthovalerate 13821-10-8 13822-56-5, 3-Aminopropyltrimethoxysilane 13831-30-6, (Acetoxyloxy)acetic acid 13943-58-3, Potassium hexacyanoferrate (II) 13963-58-1, Potassium hexacyanocobaltate 14217-04-0, Magnesium ferrocyanide 14315-97-0, 1,1,3-Triethoxypropane 14451-61-7, 3-Hydroxypropyl butanoate (fuel compns. employing oxygenate additives and catalyst combustion structures)

IT 62-53-3D, Aniline, derivs. 64-17-5, Ethanol, uses 64-18-6D, Formic acid, derivs. and alkyl esters 67-56-1, Methanol, uses 67-63-0, Isopropanol, uses 71-36-3, n-Butanol, uses 74-89-5D, Methylamine, derivs. 75-52-5, Nitromethane, uses 75-65-0, uses 78-83-1, Isobutanol, uses 78-92-2, 2-Butanol 79-14-1, 2-Hydroxyacetic acid, uses 79-24-3, Nitroethane 87-59-2, 2,3-Xylylidine 107-92-6D, Butyric acid, alkyl esters 108-20-3, Diisopropyl ether 115-10-6, Dimethyl ether 144-62-7D, Oxalic acid, esters and other derivs. 298-12-4D, derivs. 302-01-2D, Hydrazine, derivs. 463-79-6D, Carbonic acid, C3-C20 alkyl and dialkyl esters

503-81-1D, Dicarbonic acid, C3-C20 alkyl and dialkyl esters
 598-29-4, Potassium formate 1300-73-8, Xyliidine 1450-14-2,
 Hexamethyldisilane 1634-04-4, Methyl tert-butyl ether 7664-41-7,
 Ammonia, uses 7697-37-2D, Nitric acid, alkyl, cyclo, cycloalkyl, and
 aryl esters, uses 7782-41-4D, Fluorine, compds. 7782-50-5D,
 Chlorine, compds. 10043-35-3D, Boric acid, derivs. 12108-13-3,
 Methylcyclopentadienyl manganese tricarbonyl 14007-45-5, Potassium
 L-Aspartate 14452-93-8D, Nitrosyl cation, salts 22423-53-6,
 Methoxymethylsilane 25322-01-4, Nitropropane 209682-23-5
 (fuel compns. employing oxygenate additives and catalyst combustion
 structures)

OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS
 RECORD (4 CITINGS)

L31 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2003:255121 HCAPLUS Full-text
 DOCUMENT NUMBER: 138:272092
 TITLE: Atom or group transfer radical polymerization in
 the presence of transition metals
 INVENTOR(S): Matyjaszewski, Krzysztof; Gaynor, Scott G.; Coca,
 Simeon
 PATENT ASSIGNEE(S): Carnegie Mellon University, USA
 SOURCE: U.S., 90 pp., Cont.-in-part of U.S. 6,407,187.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 7
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6541580	B1	20030401	US 1999-369157	19990806
US 5763548	A	19980609	US 1995-414415	19950331
CA 2510397	A1	19961003	CA 1996-2510397	19960319
CA 2510397	C	20091117		
EP 1637543	A2	20060322	EP 2005-25891	19960319
EP 1637543	A3	20061122		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, AL				
US 6538091	B1	20030325	US 1998-18554	19980204
US 6407187	B1	20020618	US 1998-34187	19980303
US 6512060	B1	20030128	US 1999-359591	19990723
US 20020183473	A1	20021205	US 2001-34908	20011221
US 7049373	B2	20060523		
US 20020193538	A1	20021219	US 2002-98052	20020313
US 6624263	B2	20030923		
US 20030181619	A1	20030925	US 2002-289545	20021107
US 6887962	B2	20050503		
US 20030216528	A1	20031120	US 2003-456324	20030606
US 20040204556	A1	20041014	US 2004-781061	20040218
US 7125938	B2	20061024		
US 20050090632	A1	20050428	US 2004-992249	20041118
US 20050143546	A1	20050630	US 2005-59217	20050216
US 7572874	B2	20090811		
US 20060258826	A1	20061116	US 2006-430216	20060508
US 7678869	B2	20100316		
JP 2009114461	A	20090528	JP 2009-18645	20090129
PRIORITY APPLN. INFO.:			US 1995-414415	A3 19950331
			US 1997-39543P	P 19970311

US	1997-41620P	P	19970402
US	1998-18554	A3	19980204
US	1998-34187	A2	19980303
US	1995-559309	A3	19951115
CA	1996-2216853	A3	19960319
EP	1996-909643	A3	19960319
JP	1998-539631	A3	19980311
US	1999-359359	B1	19990723
US	1999-369157	A2	19990806
US	2000-534827	A2	20000323
US	2000-257738P	P	20001222
US	2002-98052	A1	20020313
US	2002-289545	A3	20021107
US	2003-456324	A1	20030606
US	2004-781061	A1	20040218

ED Entered STN: 03 Apr 2003

AB A process for ATRP polymerization and coupling of mols. by radical processes is provided, wherein improvements are provided by using transition metal of zero oxidation state in place of or in addition to transition metal complexes to give improved control over mol. weight, mol. weight distribution and compns. of the products formed. Alternatively, these improvements are achieved by using mixed transition metal compound systems in which 1 of the transition metals is in a higher of 2 available oxidation states and the other is in a lower of 2 available oxidation states, wherein the 2 metals are different. Alternatively, these improvements are achieved by using compds. of Fe, Mn, Cr, or Cu that can participate in a reversible redox cycle with ≥1 of initiators, dormant polymer chain ends, and growing polymer chain ends. Thus, heating 10 mg Fe powder, 69 mg PPh₃, 1 mL styrene, and 12 µL 1-phenylethyl bromide 9 h at 110° gave 70% polymer with Mn 6780 and Mw/Mn 1.19.

IT 7440-50-8, Copper, uses
 (atom or group transfer radical polymerization in presence of zero valent transition metals)

RN 7440-50-8 HCAPLUS

CN Copper (CA INDEX NAME)

Cu

IT 64-18-6, Formic acid, reactions
 (cocatalyst precursor; atom or group transfer radical polymerization in

presence of transition metal compds. that participate in reversible redox cycles with initiators, dormant polymer chain ends, or growing polymer chain ends)

RN 64-18-6 HCPLUS

CN Formic acid (CA INDEX NAME)



IT 998-40-3, Tributylphosphine
 (cocatalyst; atom or group transfer radical polymerization in presence of transition metal compds. that participate in reversible redox cycles with initiators, dormant polymer chain ends, or growing polymer chain ends)

RN 998-40-3 HCPLUS

CN Phosphine, tributyl- (CA INDEX NAME)



IC ICM C08F004-06
 ICS C08F004-40; C08F004-42
 INCL 526090000; 526113000; 526118000; 526135000; 526172000; 526328000;
 526335000; 526346000; 526347000
 CC 35-3 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 67

IT 7439-88-5, Iridium, uses 7439-89-6, Iron, uses 7439-96-5,
 Manganese, uses 7440-02-0, Nickel, uses 7440-05-3, Palladium, uses
 7440-06-4, Platinum, uses 7440-15-5, Rhenium, uses 7440-16-6,
 Rhodium, uses 7440-18-8, Ruthenium, uses 7440-19-9, Samarium, uses
 7440-22-4, Silver, uses 7440-47-3, Chromium, uses
 7440-50-8, Copper, uses 7440-66-6, Zinc, uses
 (atom or group transfer radical polymerization in presence of zero valent
 transition metals)

IT 64-18-6, Formic acid, reactions 111-40-0,
 Diethylenetriamine 123-72-8, Butyraldehyde 4097-89-6, Tren
 (cocatalyst precursor; atom or group transfer radical polymerization in
 presence of transition metal compds. that participate in reversible
 redox cycles with initiators, dormant polymer chain ends, or
 growing polymer chain ends)

IT 80-58-0, 2-Bromobutyric acid 94-36-0, Benzoyl peroxide, uses
 110-18-9, N,N,N',N'-Tetramethylmethylenediamine 124-63-0,
 Methanesulfonyl chloride 148-24-3, 8-Hydroxyquinoline, uses
 535-11-5, Ethyl 2-bromopropionate 672-65-1, 1-Phenylethyl chloride
 998-40-3, Tributylphosphine 1116-76-3, Trioctylamine
 1643-19-2, Tetrabutylammonium bromide 2052-01-9, 2-Bromoisobutyric
 acid 2212-32-0, 2-[(2-(Dimethylamino)ethyl)methylamino]ethanol
 3012-37-1, Benzyl thiocyanate 3030-47-5, PMDETA 4328-13-6,
 Tetrahexylammonium bromide 17639-93-9, Methyl 2-chloropropionate
 18301-66-1, Trimethylsilyl 2-bromobutyrate 24457-21-4, tert-Butyl
 2-bromobutyrate 41203-22-9, 1,4,8,11-Tetramethyl-1,4,8,11-
 tetraazacyclotetradecane 56905-18-1, Methyl 2-iodopropionate
 72914-19-3, 4,4'-Di-tert-butyl-2,2'-bipyridine 82280-42-0,

Hexakis[4-(bromomethyl)phenoxy]cyclotriphosphazene 213137-90-7,
 tert-Butyldimethylsilyl 2-bromobutyrat

(cocatalyst; atom or group transfer radical polymerization in presence of transition metal compds. that participate in reversible redox cycles with initiators, dormant polymer chain ends, or growing polymer chain ends)

OS.CITING REF COUNT: 97 THERE ARE 97 CAPLUS RECORDS THAT CITE THIS RECORD (119 CITINGS)

REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L31 ANSWER 5 OF 8 HCPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1994:662443 HCPLUS [Full-text](#)

DOCUMENT NUMBER: 121:262443

ORIGINAL REFERENCE NO.: 121:47775a,47778a

TITLE: French limiting values for occupational exposure to chemicals

AUTHOR(S): Anon.

CORPORATE SOURCE: Fr.

SOURCE: Cahiers de Notes Documentaires (1993), 153, 557-74
 CODEN: CNDIBJ; ISSN: 0007-9952

DOCUMENT TYPE: Journal

LANGUAGE: French

ED Entered STN: 26 Nov 1994

AB Limit values (suggested limiting values and maximum permissible values) for occupational exposure to chems., including carcinogens, which have been published by the French Labor Ministry are presented in one table. This table is preceded by information on the following points: monitoring of workplace atmospheres (sampling and anal.; aerosols); permitted values (definitions and aims; additivity convention; elements and compds.); limiting occupational exposure values; carcinogens); mandatory values; and values recommended by the French National Health Insurance Fund (CNAM).

IT 64-18-6, Formic acid, biological studies 121-45-9
 , Trimethyl phosphite 7440-50-8, Copper, biological studies

(occupational exposure; occupational exposure and stds. for limiting workplace concns. of chems. in France)

RN 64-18-6 HCPLUS

CN Formic acid (CA INDEX NAME)



RN 121-45-9 HCPLUS

CN Phosphorous acid, trimethyl ester (CA INDEX NAME)



RN 7440-50-8 HCPLUS

CN Copper (CA INDEX NAME)

CC 59-5 (Air Pollution and Industrial Hygiene)
 IT 50-00-0, Formaldehyde, biological studies 50-29-3, biological studies 54-11-5, Nicotine 55-63-0, Nitroglycerine 56-23-5, Tetrachloromethane, biological studies 56-38-2, Parathion 56-81-5, 1,2,3-Propanetriol, biological studies 57-14-7, 1,1-Dimethylhydrazine 57-24-9, Strychnine 57-50-1, biological studies 58-89-9, Lindane 60-29-7, biological studies 60-34-4, Methylhydrazine 60-57-1, Dieldrin 62-53-3, Aniline, biological studies 62-73-7, Dichlorvos 62-74-8 63-25-2, Carbaryl 64-17-5, Ethanol, biological studies 64-18-6, Formic acid, biological studies 64-19-7, Acetic acid, biological studies 67-56-1, Methanol, biological studies 67-63-0, Isopropanol, biological studies 67-64-1, Acetone, biological studies 67-66-3, Trichloromethane, biological studies 67-72-1, Hexachloroethane 68-11-1, Thioglycolic acid, biological studies 68-12-2, biological studies 71-23-8, 1-Propanol, biological studies 71-36-3, n-Butyl alcohol, biological studies 71-43-2, Benzene, biological studies 71-55-6, 1,1,1-Trichloroethane 72-20-8, Endrin 72-43-5, Methoxychlor 74-83-9, Bromomethane, biological studies 74-87-3, Chloromethane, biological studies 74-89-5, Methylamine, biological studies 74-90-8, Hydrocyanic acid, biological studies 74-93-1, Methanethiol, biological studies 74-96-4, Bromoethane 74-97-5, Bromochloromethane 74-99-7, Propyne 75-00-3, Chloroethane 75-01-4, biological studies 75-04-7, Ethyl amine, biological studies 75-05-8, Acetonitrile, biological studies 75-07-0, Acetaldehyde, biological studies 75-08-1, Ethanethiol 75-09-2, Dichloromethane, biological studies 75-12-7, Formamide, biological studies 75-15-0, Carbon disulfide, biological studies 75-21-8, Oxirane, biological studies 75-25-2, Tribromomethane 75-31-0, Isopropylamine, biological studies 75-34-3, 1,1-Dichloroethane 75-35-4, 1,1-Dichloroethylene, biological studies 75-43-4, Dichlorofluoromethane 75-44-5, Carbonic dichloride 75-45-6, Chlorodifluoromethane 75-47-8, Iodoform 75-50-3, Trimethylamine, biological studies 75-52-5, Nitromethane, biological studies 75-56-9, biological studies 75-61-6, Dibromodifluoromethane 75-63-8, Bromotrifluoromethane 75-65-0, tert-Butyl alcohol, biological studies 75-69-4, Trichlorofluoromethane 75-71-8, Dichlorodifluoromethane 75-74-1, Tetramethyllead 75-99-0, 2,2-Dichloropropionic acid 76-03-9, Trichloroacetic acid, biological studies 76-06-2 76-11-9 76-12-0, 1,1,2,2-Tetrachlorodifluoroethane 76-13-1, 1,1,2-Trichlorotrifluoroethane 76-14-2, 1,2-Dichlorotetrafluoroethane 76-15-3, Chloropentafluoroethane 76-22-2, Camphor 77-47-4, Hexachlorocyclopentadiene 77-73-6, Dicyclopentadiene 77-78-1, Dimethyl sulfate 78-00-2, Tetraethyllead 78-10-4 78-30-8 78-34-2, Dioxathion 78-59-1, Isophorone 78-83-1, Isobutyl alcohol, biological studies 78-87-5, 1,2-Dichloropropane 78-92-2, sec-Butyl alcohol 78-93-3, Methyl ethyl ketone, biological studies 79-01-6, Trichloroethylene, biological studies 79-04-9, Chloroacetyl chloride 79-06-1, 2-Propenamide, biological studies 79-09-4, Propionic acid, biological studies 79-10-7, 2-Propenoic acid, biological studies 79-24-3, Nitroethane 79-27-6, 1,1,2,2-Tetrabromoethane 79-34-5, 1,1,2,2-Tetrachloroethane 79-41-4, biological studies 80-62-6

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 (occupational exposure; occupational exposure and stds. for
 limiting workplace concns. of chems. in France)

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 Sodium azide (Na(N3))
 (occupational exposure; occupational exposure and stds. for
 limiting workplace concns. of chems. in France)

L31 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1993:65829 HCAPLUS Full-text
 DOCUMENT NUMBER: 118:65829
 ORIGINAL REFERENCE NO.: 118:11581a,11584a
 TITLE: Air contaminants
 CORPORATE SOURCE: Occupational Safety and Health Administration, U.
 S. Dep. Labor, Washington, DC, 20210, USA
 SOURCE: Federal Register (1992), 57(114, Bk. 2), 26002-601
 , 12 Jun 1992
 CODEN: FEREAC; ISSN: 0097-6326
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 16 Feb 1993
 AB Proposed amendments of existing air contaminant stds. for the maritime and
 construction industries and extension of air contaminant stds. to agricultural
 employees (only employees of farms with >10 nonfamily employees are covered)
 are given under the Federal Occupational Safety and Health Administration.
 Tables that indicated transitional limits, based on established threshold
 limit values, indication of skin protection needs, proposed time-weighted
 average exposure (any 8-h work shift for 40-h week), short-term exposure limit
 (15-min time-weighted average), ceiling (exposure during any part of the work
 day, or if instantaneous monitoring is not feasible, the 15-min time-weighted
 average), and/or skin protection needs are given for the shipyard, marine
 terminal and longshoring, construction, and agricultural industries. Extensive
 data on health effects of the substances to be regulated and preliminary
 regulatory impact analyses are given for general industry and the specific
 industrial sectors.
 IT 64-18-6, Formic acid, biological studies 121-45-9
 , Trimethyl phosphite 7440-50-8, Copper, biological
 studies
 (exposure limits to airborne, in agricultural and construction and
 maritime industries, stds. for)
 RN 64-18-6 HCAPLUS
 CN Formic acid (CA INDEX NAME)



RN 121-45-9 HCAPLUS
 CN Phosphorous acid, trimethyl ester (CA INDEX NAME)



RN 7440-50-8 HCPLUS
 CN Copper (CA INDEX NAME)

Cu

CC 59-5 (Air Pollution and Industrial Hygiene)
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 111-15-9, 2-Ethoxyethyl acetate 111-30-8, Pentanodial
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 7726-95-6, Bromine, biological studies 7727-43-7, Barium sulfate
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 7783-06-4, Hydrogen sulfide, biological studies 7783-07-5, Hydrogen
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 (exposure limits to airborne, in agricultural and construction and
 maritime industries, stds. for)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
 RECORD (1 CITINGS)

L31 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1992:660359 HCAPLUS Full-text
 DOCUMENT NUMBER: 117:260359
 ORIGINAL REFERENCE NO.: 117:44861a,44864a
 TITLE: Cyclic voltammetric study on carbon dioxide
 reduction using copper complexes as
 electrocatalysts
 AUTHOR(S): Fujiwara, Hiroki; Nonaka, Tsutomu
 CORPORATE SOURCE: Dep. Electron. CHem., Tokyo Inst. Technol.,
 Yokohama, 227, Japan
 SOURCE: Journal of Electroanalytical Chemistry (1992),
 332(1-2), 303-7
 CODEN: JECHE8
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 26 Dec 1992
 AB CO₂ reduction was studied using HOCO₂Cu(PPh₃)₂ electrocatalyst. The CuII
 complex formed in situ by addition of PPh₃ to CuCl₂ had an electrocatalytic
 activity for CO₂ reduction quite similar to that of HOCO₂Cu(PPh₃)₂.
 IT 7440-50-8D, Copper, complexes
 (electrocatalysts, for carbon dioxide reduction)
 RN 7440-50-8 HCAPLUS
 CN Copper (CA INDEX NAME)

Cu

IT 998-40-3D, Tributylphosphine, copper complexes
 (electrocatalysts, for copper reduction)
 RN 998-40-3 HCAPLUS
 CN Phosphine, tributyl- (CA INDEX NAME)



IT 64-18-6P, Formic acid, preparation
 (formation of, by electrolysis of carbon dioxide in presence of
 copper-triphenylphosphine complex)
 RN 64-18-6 HCAPLUS
 CN Formic acid (CA INDEX NAME)



CC 72-2 (Electrochemistry)
 Section cross-reference(s): 67
 IT 7440-50-8D, Copper, complexes 73716-93-5
 (electrocatalysts, for carbon dioxide reduction)
 IT 366-18-7D, 2,2'-Bipyridine, copper complexes 603-35-0D,
 Triphenylphosphine, copper complexes 998-40-3D,
 Tributylphosphine, copper complexes
 (electrocatalysts, for copper reduction)
 IT 64-18-6P, Formic acid, preparation 144-62-7P, Oxalic acid,
 preparation 630-08-0P, Carbon monoxide, preparation
 (formation of, by electrolysis of carbon dioxide in presence of
 copper-triphenylphosphine complex)
 OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
 RECORD (1 CITINGS)

L31 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1989:218230 HCAPLUS [Full-text](#)
 DOCUMENT NUMBER: 110:218230
 ORIGINAL REFERENCE NO.: 110:36135a,36138a
 TITLE: Air contaminants
 CORPORATE SOURCE: United States Occupational Safety and Health
 Administration, Washington, DC, 20210, USA
 SOURCE: Federal Register (1989), 54(12, Bk. 2), 2332-983,
 19 Jan 1989
 CODEN: FEREAC; ISSN: 0097-6326
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 10 Jun 1989
 AB Under the Federal Occupational Safety and Health act, OSHA is amending
 existing air containment stds. and setting new permissible exposure limits for
 toxic substances commonly used in the workplace.
 IT 64-18-6, Formic acid, biological studies 121-45-9
 , Trimethyl phosphite 7440-50-8, Copper, biological
 studies
 (air pollution by, occupational exposure to, stds. for, in USA)
 RN 64-18-6 HCAPLUS
 CN Formic acid (CA INDEX NAME)



RN 121-45-9 HCAPLUS
 CN Phosphorous acid, trimethyl ester (CA INDEX NAME)



RN 7440-50-8 HCAPLUS
 CN Copper (CA INDEX NAME)



CC 59-5 (Air Pollution and Industrial Hygiene)
 Section cross-reference(s): 4
 IT 50-00-0, Formaldehyde, biological studies 50-29-3, biological studies 50-32-8, Benzo[al]pyrene, biological studies 50-78-2 53-96-3 54-11-5, Nicotine 55-38-9, Fenthion 55-63-0, Nitroglycerin 56-23-5, biological studies 56-38-2, Parathion 56-81-5, 1,2,3-Propanetriol, biological studies 57-14-7, 1,1-Dimethylhydrazine 57-24-9, Strychnine 57-50-1, biological studies 57-57-8, 2-Oxetanone 58-89-9, Lindane 60-11-7, 4-Dimethylaminoazobenzene 60-29-7, Ethyl ether, biological studies 60-34-4, Methyl hydrazine 60-57-1, Dieldrin 61-82-5, Amitrole 62-53-3, Aniline, biological studies 62-73-7, Dichlorvos 62-74-8, Sodium fluoroacetate 62-75-9, N-Nitrosodimethylamine 63-25-2 64-17-5, Ethyl alcohol, biological studies 64-18-6, Formic acid, biological studies 64-19-7, Acetic acid, biological studies 67-56-1, Methyl alcohol, biological studies 67-63-0, Isopropyl alcohol, biological studies 67-64-1, Acetone, biological studies 67-66-3, Chloroform, biological studies 67-72-1, Hexachloroethane 68-11-1, Thioglycolic acid, biological studies 68-12-2, Dimethylformamide, biological studies 71-23-8, n-Propyl alcohol, biological studies 71-36-3, n-Butyl alcohol, biological studies 71-43-2, Benzene, biological studies 71-55-6, Methyl chloroform 72-20-8, Endrin 72-43-5, Methoxychlor 74-83-9, Methyl bromide, biological studies 74-87-3, Methyl chloride, biological studies 74-88-4, biological studies 74-89-5, Methylamine, biological studies 74-90-8, Hydrogen cyanide, biological studies 74-93-1, Methyl mercaptan, biological studies 74-96-4, Ethyl bromide 74-97-5, Chlorobromomethane 74-98-6, Propane, biological studies 74-99-7, Methyl acetylene 75-00-3, Ethyl chloride 75-01-4, biological studies 75-04-7, Ethylamine, biological studies 75-05-8, Acetonitrile, biological studies 75-07-0, Acetaldehyde, biological studies 75-08-1, Ethyl mercaptan 75-09-2, Methylene chloride, biological studies 75-12-7, Formamide, biological studies 75-15-0, Carbon disulfide, biological studies 75-21-8, Oxirane, biological studies 75-25-2, Bromoform 75-31-0, Isopropylamine, biological

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 7664-41-7, Ammonia, biological studies 7664-93-9, Sulfuric acid,
 biological studies

(air pollution by, occupational exposure to, stds. for, in USA)

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(FILE 'HOME' ENTERED AT 10:10:48 ON 02 APR 2010)

FILE 'HCAPLUS' ENTERED AT 10:10:58 ON 02 APR 2010
 L1 1 SEA SPE=ON ABB=ON PLU=ON US20070197810/PN
 SEL RN

FILE 'REGISTRY' ENTERED AT 10:11:14 ON 02 APR 2010
 L2 40 SEA SPE=ON ABB=ON PLU=ON (116-17-6/B1 OR 121-45-9/B1 OR
 122-52-1/B1 OR 2769-64-4/B1 OR 370-69-4/B1 OR 4125-25-1/B1
 OR 554-70-1/B1 OR 594-09-2/B1 OR 598-45-8/B1 OR 603-35-0/B1
 OR 624-88-4/B1 OR 64-18-6/B1 OR 6476-36-4/B1 OR 7188-38-7/
 BI OR 7440-50-8/B1 OR 7650-88-6/B1 OR 7758-89-6/B1 OR
 855516-69-7/B1 OR 855516-71-1/B1 OR 855516-73-3/B1 OR
 855516-75-5/B1 OR 855516-77-7/B1 OR 855516-79-9/B1 OR
 855516-81-3/B1 OR 855516-83-5/B1 OR 855516-85-7/B1 OR
 855516-87-9/B1 OR 855516-89-1/B1 OR 855516-91-5/B1 OR
 855516-93-7/B1 OR 855516-95-9/B1 OR 855516-97-1/B1 OR
 855516-99-3/B1 OR 855517-00-9/B1 OR 855517-02-1/B1 OR
 855517-04-3/B1 OR 855517-06-5/B1 OR 855517-08-7/B1 OR
 931-53-3/B1 OR 998-40-3/B1)

L3 12 SEA SPE=ON ABB=ON PLU=ON L2 NOT P/ELS
 L4 STR
 L5 47 SEA SSS SAM L4
 L6 10858 SEA SPE=ON ABB=ON PLU=ON 64-18-6/CRN
 L7 4228 SEA SSS FUL L4
 L8 11 SEA SPE=ON ABB=ON PLU=ON L7 AND L2
 L9 11 SEA SPE=ON ABB=ON PLU=ON L6 AND L7
 SAV VET103/A L7

FILE 'HCAPLUS' ENTERED AT 12:54:24 ON 02 APR 2010
 L10 1 SEA SPE=ON ABB=ON PLU=ON L9
 L11 5829 SEA SPE=ON ABB=ON PLU=ON L7
 L12 15157 SEA SPE=ON ABB=ON PLU=ON L6
 L13 27 SEA SPE=ON ABB=ON PLU=ON L11 AND L12

FILE 'REGISTRY' ENTERED AT 12:55:32 ON 02 APR 2010
 L14 STR
 L15 0 SEA SUB=L7 SSS SAM L14
 L16 27 SEA SUB=L7 SSS FUL L14
 SAV L16 VET103A/A
 L17 16 SEA SPE=ON ABB=ON PLU=ON L16 NOT L9

FILE 'HCAPLUS' ENTERED AT 13:18:11 ON 02 APR 2010
 L18 9 SEA SPE=ON ABB=ON PLU=ON L16
 L19 26 SEA SPE=ON ABB=ON PLU=ON L13 NOT L18
 L20 24 SEA SPE=ON ABB=ON PLU=ON L2 AND CU/ELS
 L21 16 SEA SPE=ON ABB=ON PLU=ON L2 NOT L20
 L22 15 SEA SPE=ON ABB=ON PLU=ON L21 NOT TRIPHEN?
 E COPPER/CN
 L23 1 SEA SPE=ON ABB=ON PLU=ON COPPER/CN

FILE 'REGISTRY' ENTERED AT 13:28:21 ON 02 APR 2010
 L24 15 SEA SPE=ON ABB=ON PLU=ON L22 NOT L6
 L25 1 SEA SPE=ON ABB=ON PLU=ON 64-18-6/RN
 L26 14 SEA SPE=ON ABB=ON PLU=ON L22 NOT L25

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FILE 'HCAPLUS' ENTERED AT 13:29:21 ON 02 APR 2010
L27 624162 SEA SPE=ON ABB=ON PLU=ON L23
L28 20431 SEA SPE=ON ABB=ON PLU=ON L26
L29 43386 SEA SPE=ON ABB=ON PLU=ON L25
L30 9 SEA SPE=ON ABB=ON PLU=ON L27 AND L28 AND (L29 OR L6)
L31 8 SEA SPE=ON ABB=ON PLU=ON L30 NOT (L18 OR L19)